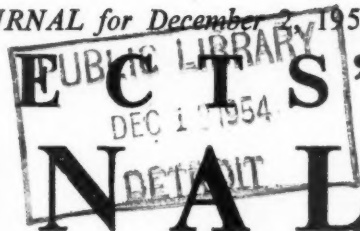


THE ARCHITECTS' JOURNAL



standard contents

every issue does not necessarily contain
all these contents but they are
the regular features which
continually recur

NEWS and COMMENT

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Astragal's Notes and Topics
Letters
Societies and Institutions

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Information Centre
Current Technique
Questions and Answers
Prices
The Industry

PHYSICAL PLANNING SUPPLEMENT

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HOUSING STATISTICS

Architectural Appointments
Wanted and Vacant

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to I one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhamstead, Herts.	
ABS	Architects' Benevolent Society, 66, Portland Place, W.1	Langham 5721
ABT	Association of Building Technicians, 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain, 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association, 33, Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association, 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council, 68, Portland Place, W.1	Langham 8738
BAE	Board of Architectural Education, 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council, Lambeth Bridge House, S.E.1.	
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1.	Reliance 7611, Ext. 1706
BCC	British Colour Council, 13, Portman Square, W.1.	Museum 5400
BCCF	British Cast Concrete Federation, 105, Uxbridge Road, Ealing, W.5.	Welbeck 4185
BCIRA	British Cast Iron Research Association, Alvechurch, Birmingham.	Ealing 9621
BDA	British Door Association, 10, The Boltons, S.W.10.	Redditch 716
BEDA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Fremantle 8494
BIA	British Ironfounders' Association, 145, Vincent Street, Glasgow, C.2.	Temple Bar 9434
BIAE	British Institute of Adult Education, 29, Tavistock Square, W.C.1.	Glasgow Central 2891
BID	Building Industries Distributors, 57, High Holborn, W.C.1.	Euston 5385
BINC	Building Industries National Council, 11, Weymouth Street, W.1.	Chancery 7772
BOT	Board of Trade, Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Langham 2785
BRDB	British Rubber Development Board, Market Buildings, Mark Lane, E.C.3.	Trafalgar 8855
BRS	Building Research Station, Bucknalls Lane, Watford.	Mansion House 9383
BSA	Building Societies Association, 14, Park Street, W.1.	Garston 2246
BSI	British Standards Institution, British Standards House, 2, Park St., W.1.	Mayfair 0515
BTE	Building Trades Exhibition, 4, Vernon Place, W.C.1.	Mayfair 9000
CABAS	City and Borough Architects Society, C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Holborn 8146/7
CAS	County Architects' Society, C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Newport 5491
CCA	Cement and Concrete Association, 52, Grosvenor Gardens, S.W.1.	Chichester 3001
CCP	Council for Codes of Practice, Lambeth Bridge House, S.E.1.	Sloane 5255
CDA	Copper Development Association, Kendals Hall, Radlett, Herts.	Reliance 7611
CIAM	Congrès Internationaux d'Architecture Moderne, Dolderstr., 7, Zurich, Switzerland.	Radlett 5616
COID	Council of Industrial Design, Tilbury House, Petty France, S.W.1.	Switzerland
CPRE	Council for the Preservation of Rural England, 4, Hobart Place, S.W.	Abbey 7080
CUC	Coal Utilization Council, 3, Upper Belgrave Street, S.W.1.	Sloane 4280
CVE	Council for Visual Education, 13, Suffolk Street, Haymarket, S.W.1.	Sloane 9116
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reading 72255
DIA	Design and Industries Association, 13, Suffolk Street, S.W.1.	Reliance 7611
DPT	Department of Overseas Trade, Horseguards Avenue, Whitehall, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated), Sackville House, 40, Piccadilly, W.1.	Trafalgar 8855
EPNS	English Place-Name Society, 7, Selwyn Gardens, Cambridge.	Regent 4448
FAS	Faculty of Architects and Surveyors, 67, Oxford Street, W.1.	Gerrard 0021
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organisation, Ltd., Melbourne House, Aldwych, W.C.2.	Temple Bar 4561
FBI	Federation of British Industries, 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission, 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries, 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District, Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders, 26, Great Ormond Street, Holborn, W.C.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders, 82, New Cavendish Street, W.1.	Langham 4041
FS (Eng.)	Faculty of Surveyors of England, 67, Oxford Street, W.1.	Gerrard 0021
GC	Gas Council, 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group, 27, Grosvenor Place, S.W.1.	Sloane 2844
HC	Housing Centre, 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors, 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts, 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers, Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society, 32, Victoria Street, S.W.1.	Abbey 5215

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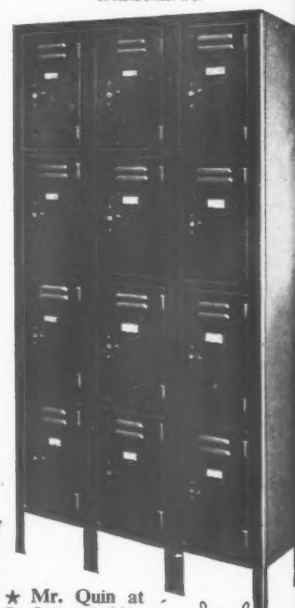
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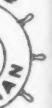
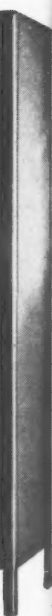
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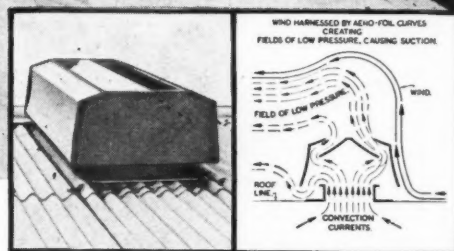
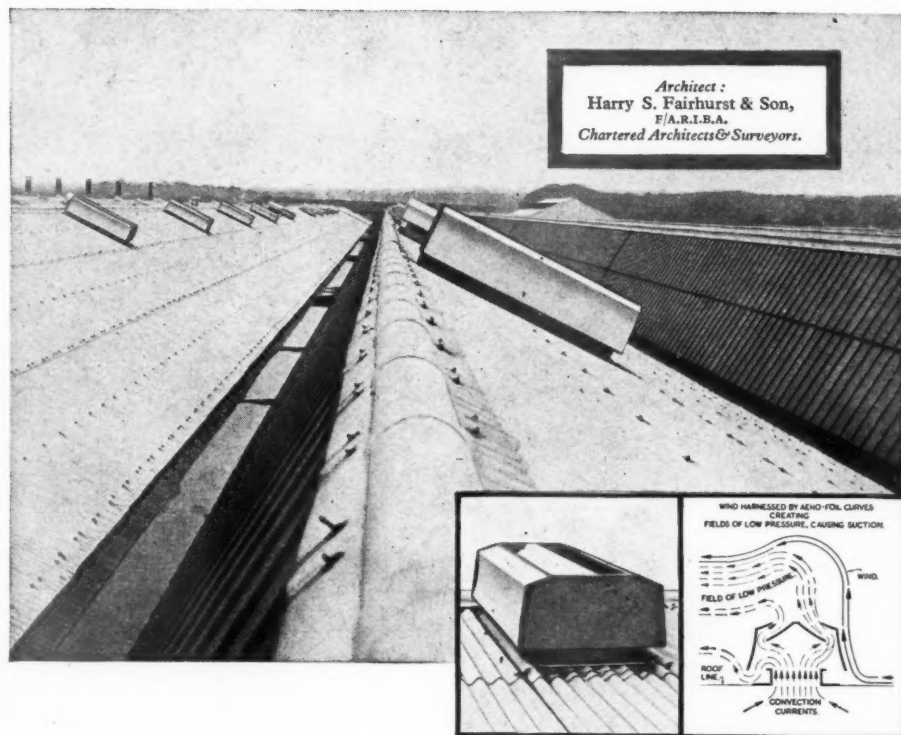


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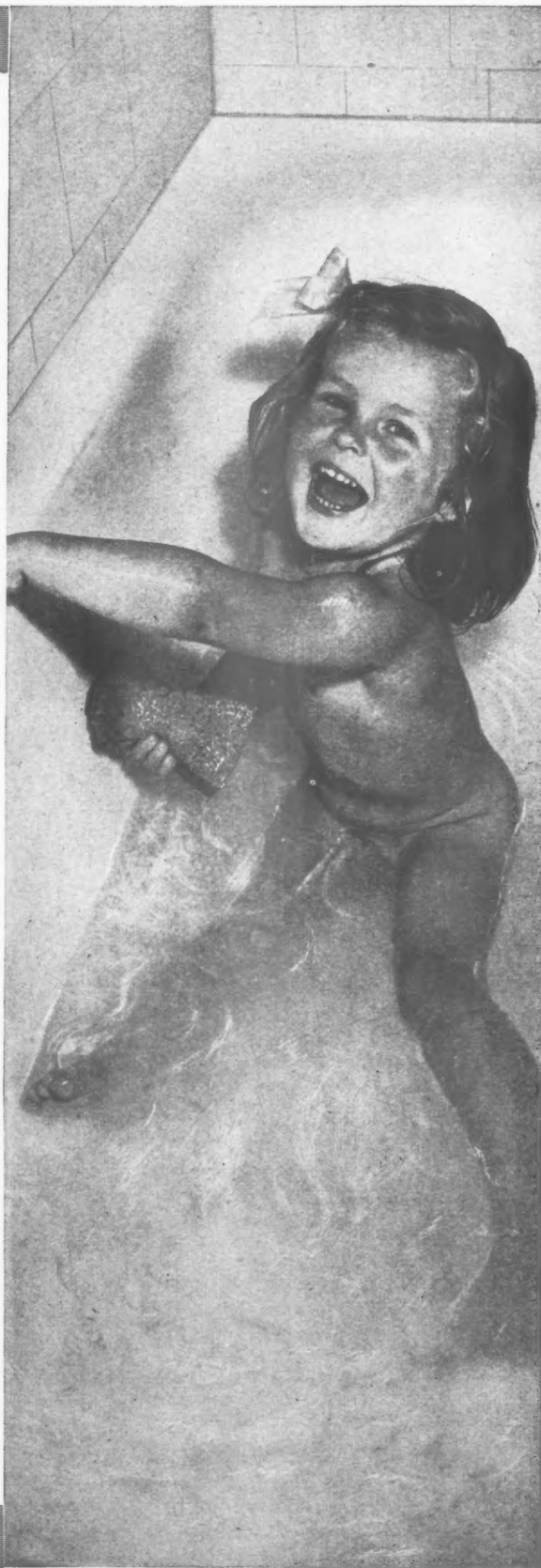
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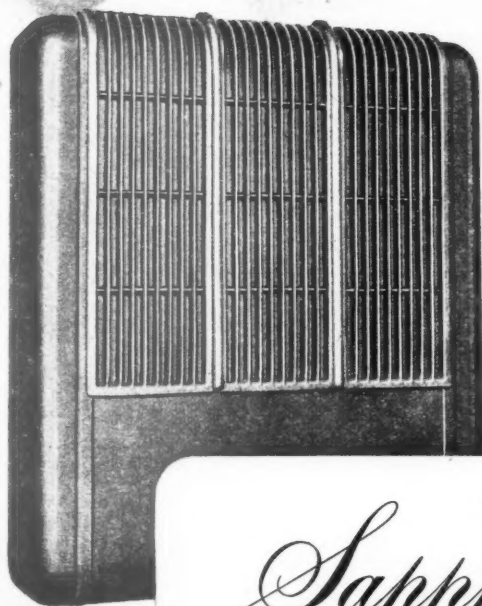
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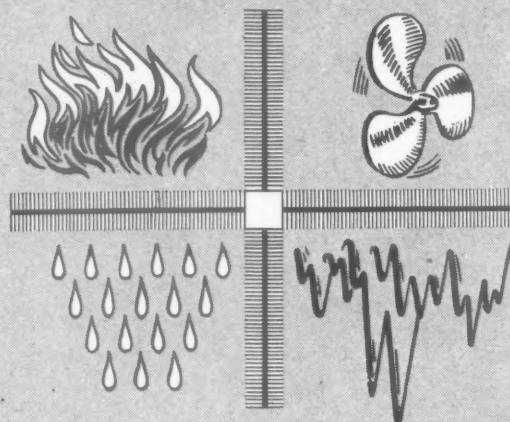
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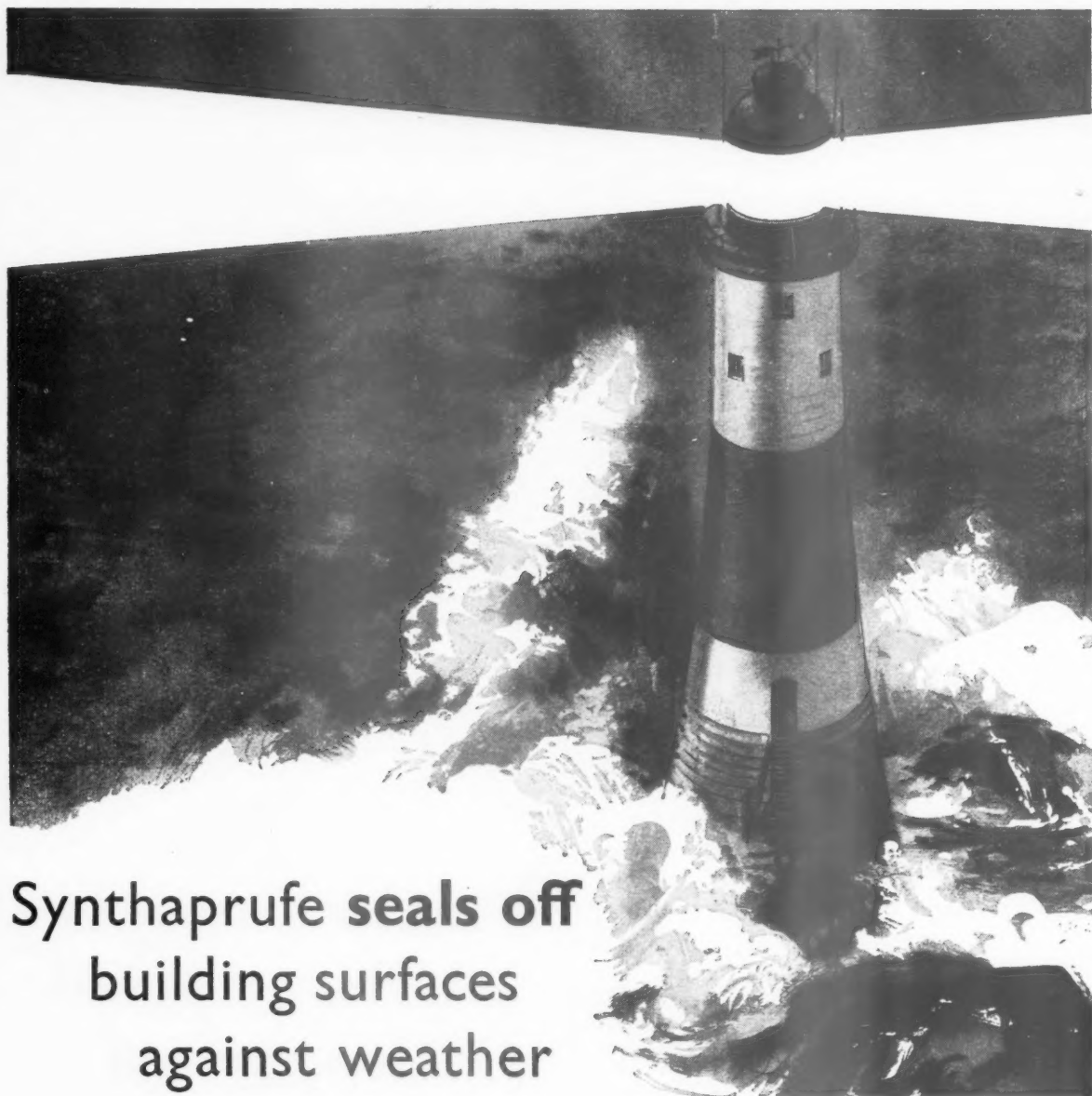
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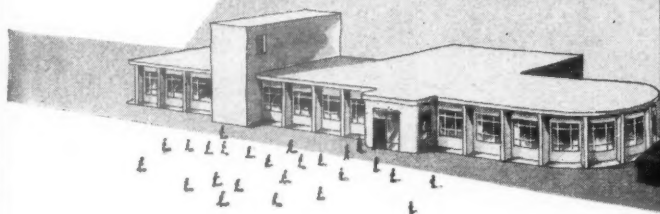
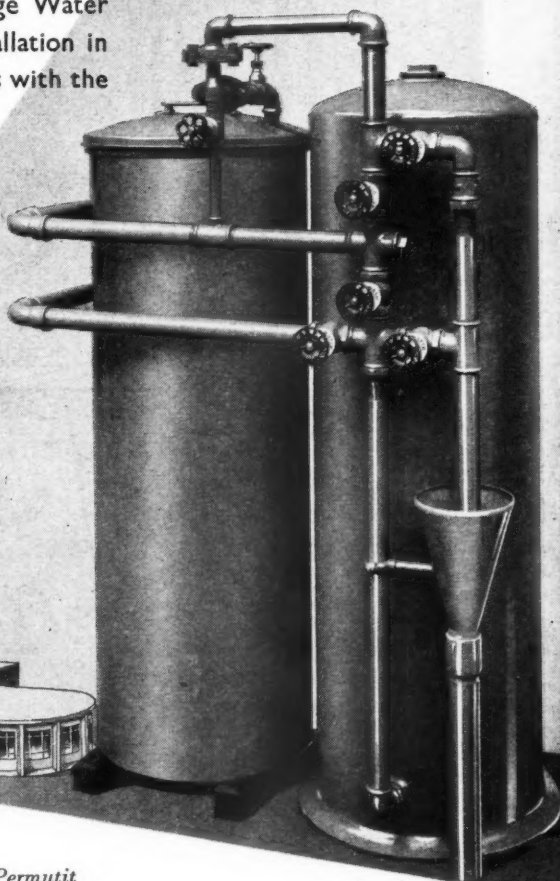
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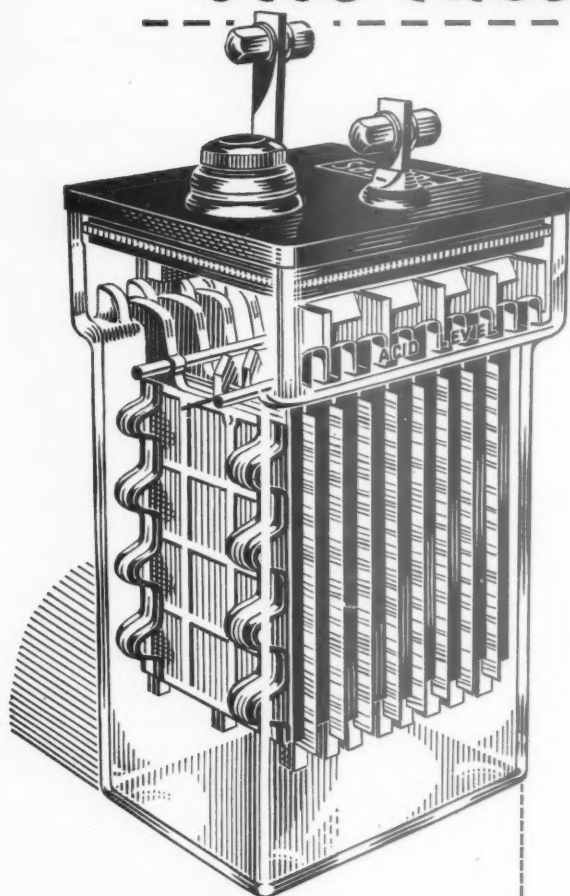
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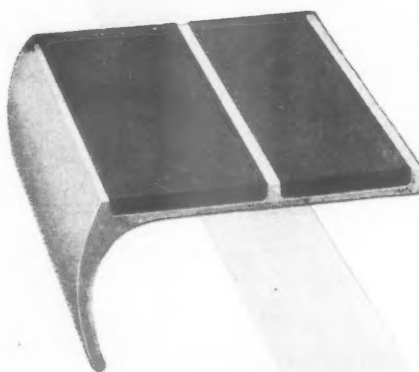
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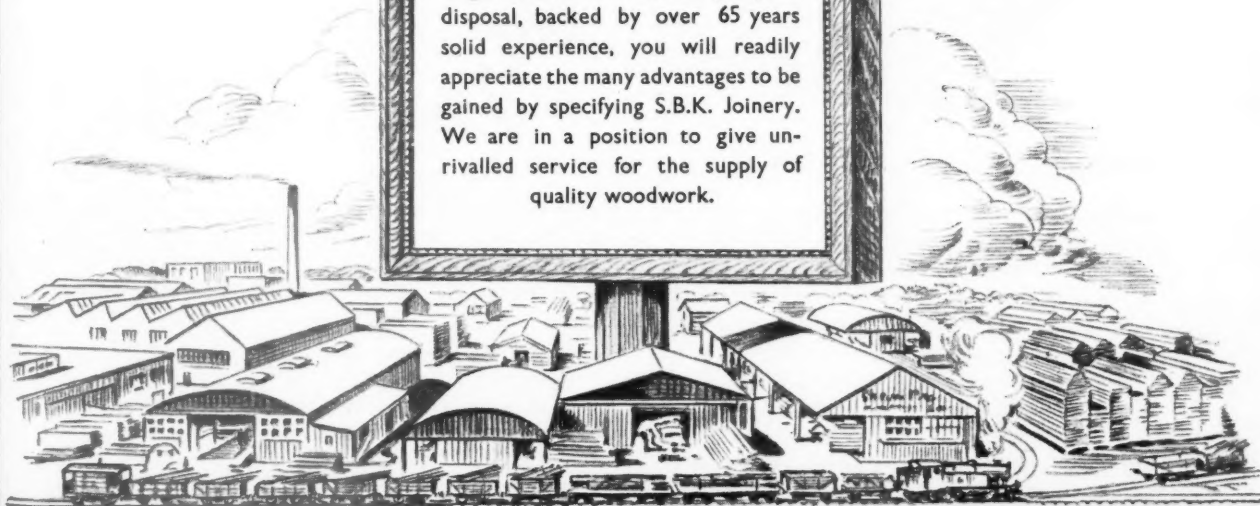
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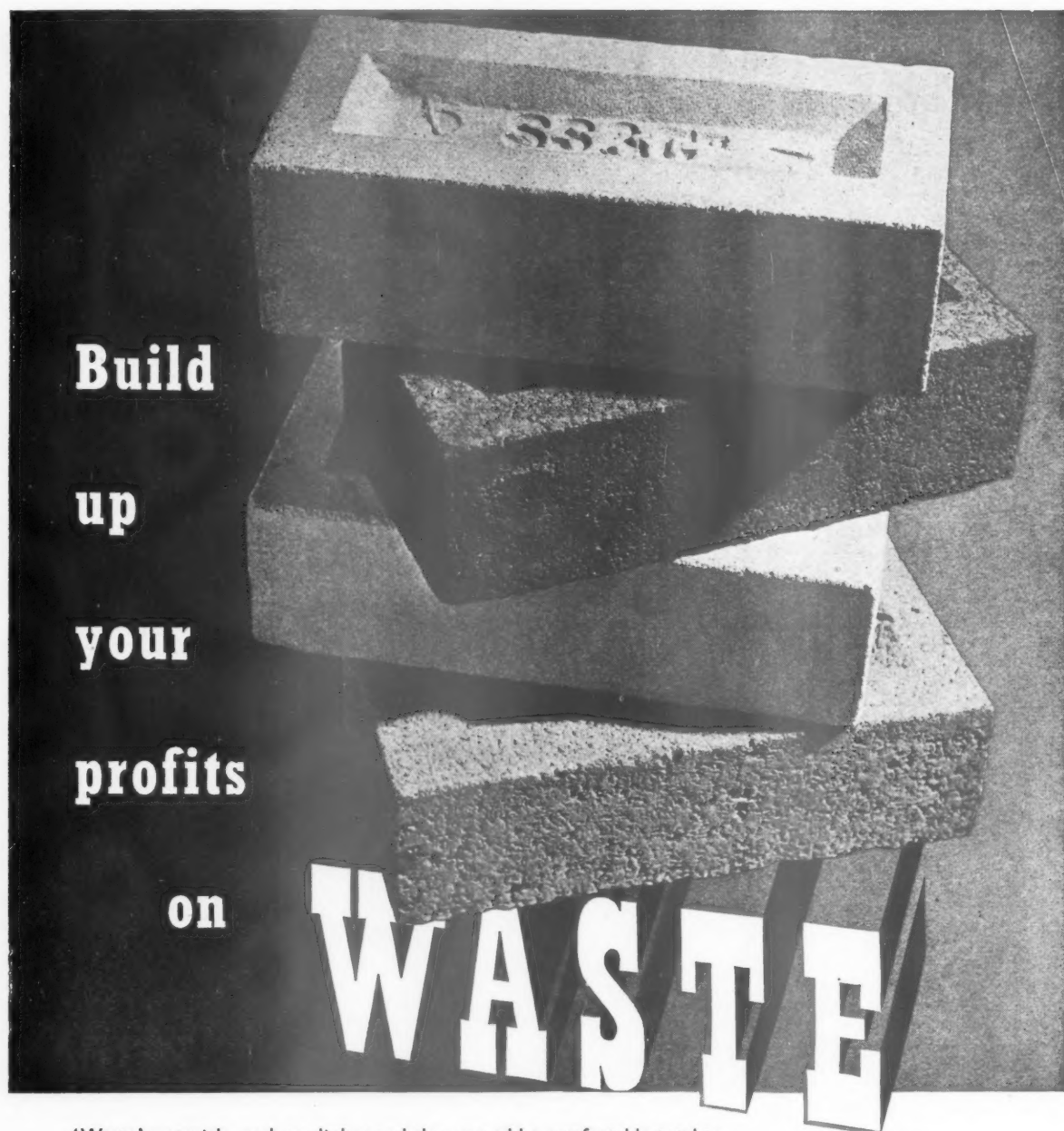
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and 20ft. wide x 16ft. high.

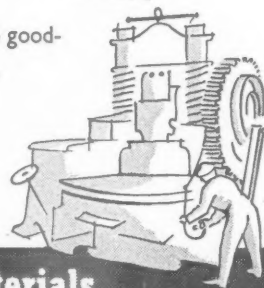
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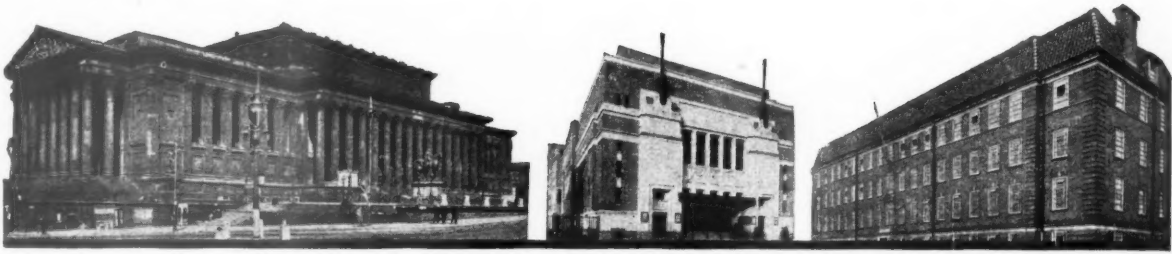
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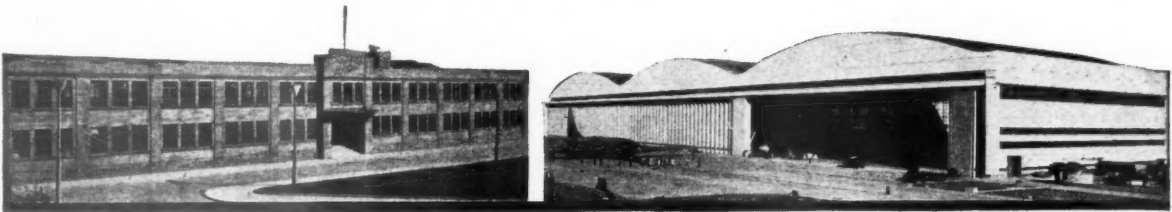
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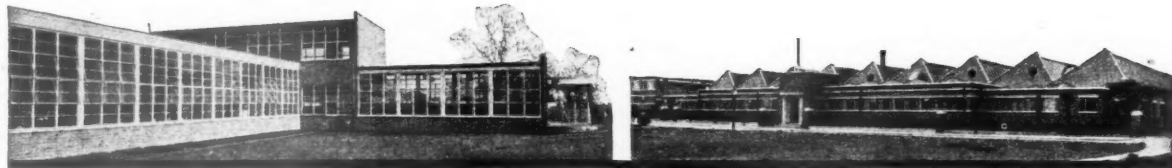
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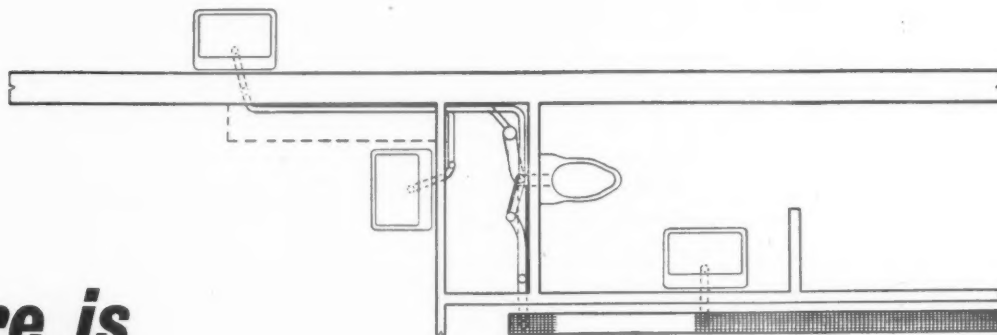


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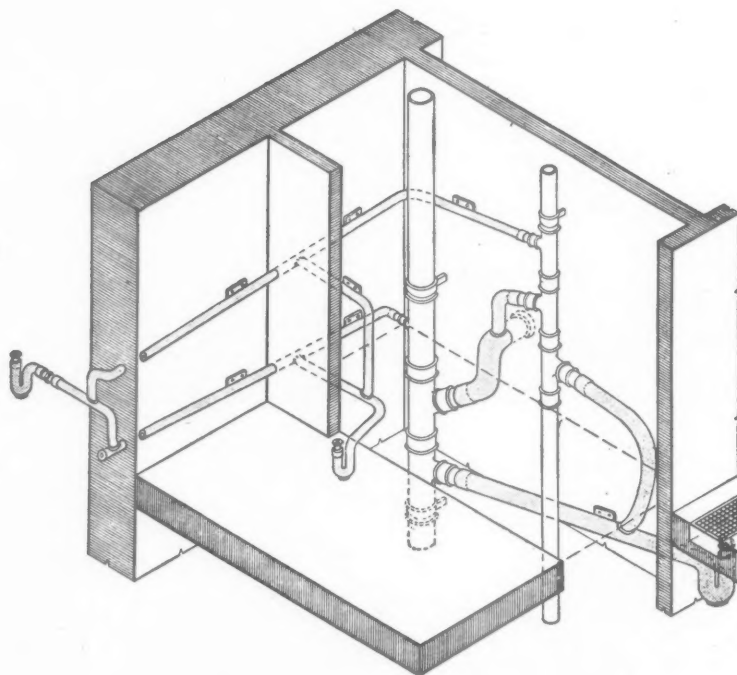


S.D.145



there is more to hospital plumbing than meets the eye

In fact, the pipework is best concealed. For hidden pipework there is no better material than lead pipe because of its high corrosion resistance and the ease with which it can be used for compact work. The illustrations are from "Plumbing for Hospitals," copies of which are available on request.



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B.112/12/53

ELECTRIC LIGHTING

LAMPS AND LIGHT FITTINGS

Light fittings have two major functions: to distribute as much as possible of the light emitted from the lamp in the required directions and intensities, and to reduce the brightness of the lamps to a comfortable level at which all risk of glare or discomfort is eliminated. Their appearance is generally subordinated to these requirements where efficiency is of primary importance.

Filament Lamps

The type of lamp most widely used is known as the General Lighting Service Lamp (G.L.S.); the normal finishes for the bulbs being clear glass, internally frosted ('pearl') and internally silica coated. As there is no appreciable loss of light through pearl or silica-coated glass, clear glass bulbs should not be used unless hard shadows or glitter are required, as in some forms of display illumination. Silica-coated bulbs have a lighted appearance almost identical with the old 'opal' lamps, but their efficiency is considerably higher and they cast softer shadows. They are therefore recommended for open fittings in general and domestic lighting in particular, being obtainable in the following wattages: 40, 60, 75, 100, 150 and 200 watts. The average life of a filament lamp may be taken as 1,000 hours, throughout which period it operates with a standard light output.

Fluorescent Lamps

Fluorescent lamps are basically mercury vapour discharge lamps operating at a very low vapour pressure and generating ultra-violet radiation which is absorbed by the fluorescent powder lining the tube and re-emitted as visible light. Two types are in use—the familiar mains voltage (Hot Cathode) type, and the high voltage (Cold Cathode) type with longer tubes. Only the mains voltage type of fluorescent lamp is considered in these notes. These lamps give at least three times as much light as filament lamps of the same wattage, and operate at low surface temperatures with the emission of relatively little radiant heat: their life is approximately five times that of a filament lamp, the standard rating being 5,000 hours. They have a much lower surface brightness, and their light is evenly distributed.

Their overall efficiency and economy will often be found to outweigh the disadvantages of higher first cost (due to the need for control gear and larger light fittings). Fluorescent lamps of different wattages are not interchangeable in the light fittings as are filament lamps; their colour-rendering properties are more critical than, though not necessarily inferior to, filament lamps. Hot Cathode lamps are obtainable in the following sizes and wattages: 15 watt, 1 ft. 6 in. long; 20 watt, 2 ft. long; 40 watt, 2 ft. long and circular 16 in. diam.; 30 watt, 3 ft. long; 40 watt, 4 ft. long; 80 watt, 5 ft. long.

Fluorescent Lamps with Filament Ballast

Fluorescent lamps may be used with a resistance instead of an inductive choke, a filament lamp of suitable characteristics being satisfactory for this purpose. This type of control is known as filament or tungsten ballast, and fittings incorporating both fluorescent and filament lamps are available. Against the advantages of saving in cost and weight of the complete fitting, instant starting and elimination of choke hum, must be set the lower efficiency of the combination (approximately 20 lumens per watt as compared with 30-35 lumens per watt with chokes as ballast).

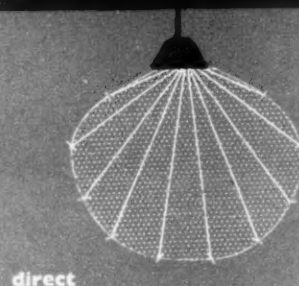
Maintenance and Service

Immediately a lighting installation is put into service its performance begins to deteriorate and allowance must be made for this from the start. Fittings should be used which do not provide unnecessary lodgements for dirt, which can easily be cleaned without damage, and which permit of easy lamp changing.

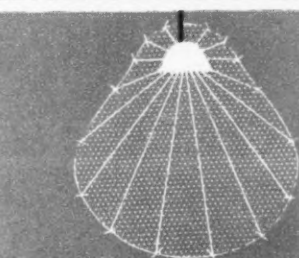
When designing an installation, a "maintenance factor", $\frac{E_s}{E_i}$, is applied, where E_s is the illumination after depreciation, and E_i is the designed initial illumination. With ordinary atmospheric conditions it is usual to allow a maintenance factor of 0.8, which is based on the assumption that lamps and fittings will be cleaned regularly: in very dirty industrial interiors it may be as low as 0.5. The latter figure may also apply to indirect fittings and features unless particular attention is paid to cleaning.

Performance of Lighting Fittings

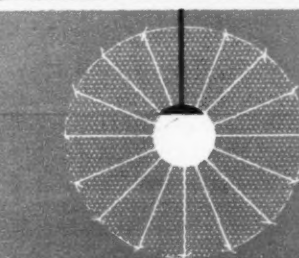
Table 1 gives particulars of the performance of a range of typical light fittings, the wattage values given including corrections for room dimensions and average reflection factors of 70% for ceiling and 40% for the walls (see L.1). It is important to realise that these wattages are required to give the same illumination in each case, *not* the same appearance of lighting: they should be increased when the room is small or the window area large and unscreened by light blinds or curtains. The table will give a fair basis for preliminary estimates with different types of lighting: closer figures will be prepared by the lighting engineer using the standard tables of data.



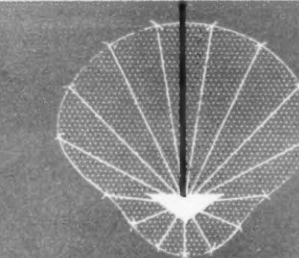
direct



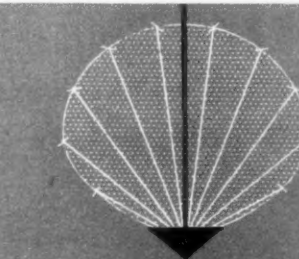
semi-direct



general diffusing



semi-indirect



indirect

Fig. 1. Light distribution

L.2

direct

Dispersive Reflector



Deep Bowl Reflector



Diffusing Reflector



Trough Reflector



semi-direct

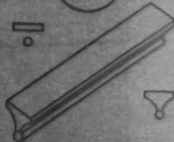
Translucent or open top shades



Enclosed



Batten or V-channel



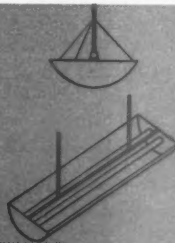
general diffusing

Enclosed
Flashed opal glass



semi-indirect

Translucent
Inverted bowls



indirect

Cornices, coilers and other similar "architectural" treatments



Lamps used	Approx. lamp wattages per 100 sq ft of room area to give 1 lm. sq ft in service			Remarks
	A*	B*	C*	
Filament	26	20	17	<i>Spacing-height ratio 1.5 : 1 (max.). Normal shielding angle 20°. No provision for diffusion. Tend to give hard shadows and produce bright highlights on polished surfaces. Easily cleaned.</i>
Mercury Discharge	11	9	8	
Filament	29	23	19	
Filament	31	23	19	<i>Gives small amount of upward light. Diffuser round lamp reduces shadows and softens highlights.</i>
Fluorescent	8	6.5	5.5	<i>Open top or translucent reflectors are made and recommended for most purposes. Can be used in continuous lines or with closed tops tight against ceiling.</i>
Filament	32	23	21	<i>Shades should have white interiors.</i>
Filament	34	24	20	<i>Should be sealed against dust, otherwise difficult to keep clean.</i>
Fluorescent	9	7.25	5.5	<i>Satisfactory only with light coloured decoration. Can be glaring at low mounting heights, and lose efficiency as mounting height increases.</i>
Filament	35	25	20	<i>Not dust-tight unless properly sealed. Better for small than large interiors. Danger of glare when used in large numbers. Tend to cause distraction.</i>
Filament	40	30	25	<i>These types of fitting need frequent cleaning. Careful adjustment of position of lamp and mounting height necessary to avoid noticeable shadow line on walls. For use where efficiency is a secondary consideration.</i>
Fluorescent	13	10	8	
Filament	53	33	27	<i>Fittings must be easily accessible as both lamps and fittings need frequent cleaning. Careful adjustment of mounting height necessary to avoid shadow lines and dark areas on ceiling and walls.</i>
Filament	95	56	48	<i>Careful design necessary to release the maximum light: no more shielding should be provided than is essential to avoid direct view of lamps. All corners should be gently rounded. In particular, lamps need very frequent cleaning.</i>
Fluorescent	32	19	16	

NOTES *A = Room having width equal to height.
 *B = Room having width equal to twice the height.
 *C = Room having width equal to four times the height.

The wattages given for fluorescent lamps are based on "Natural" shade lamps.

L.2 British Electrical Development Association

For further details apply to the British Electrical Development Association,
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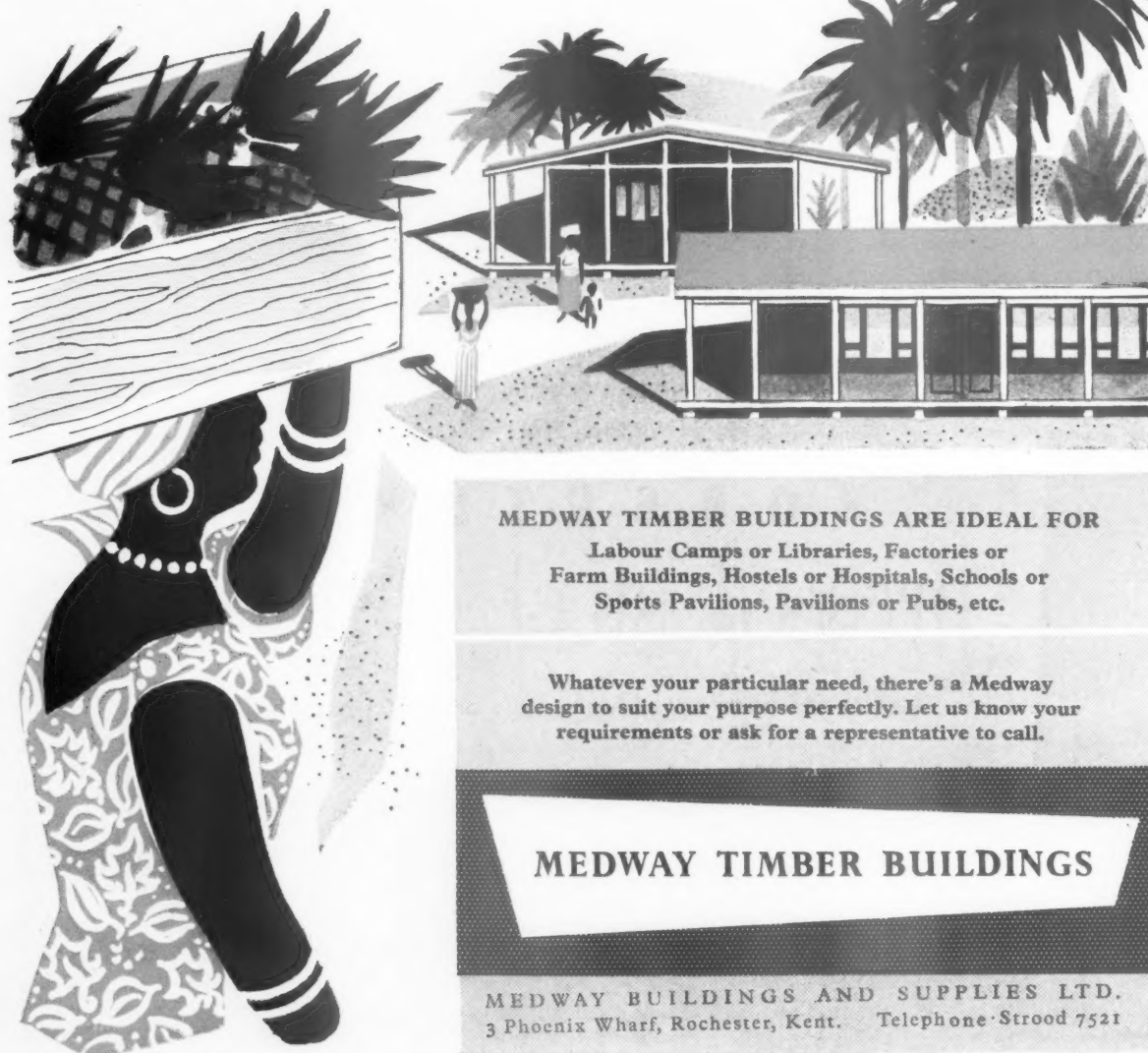
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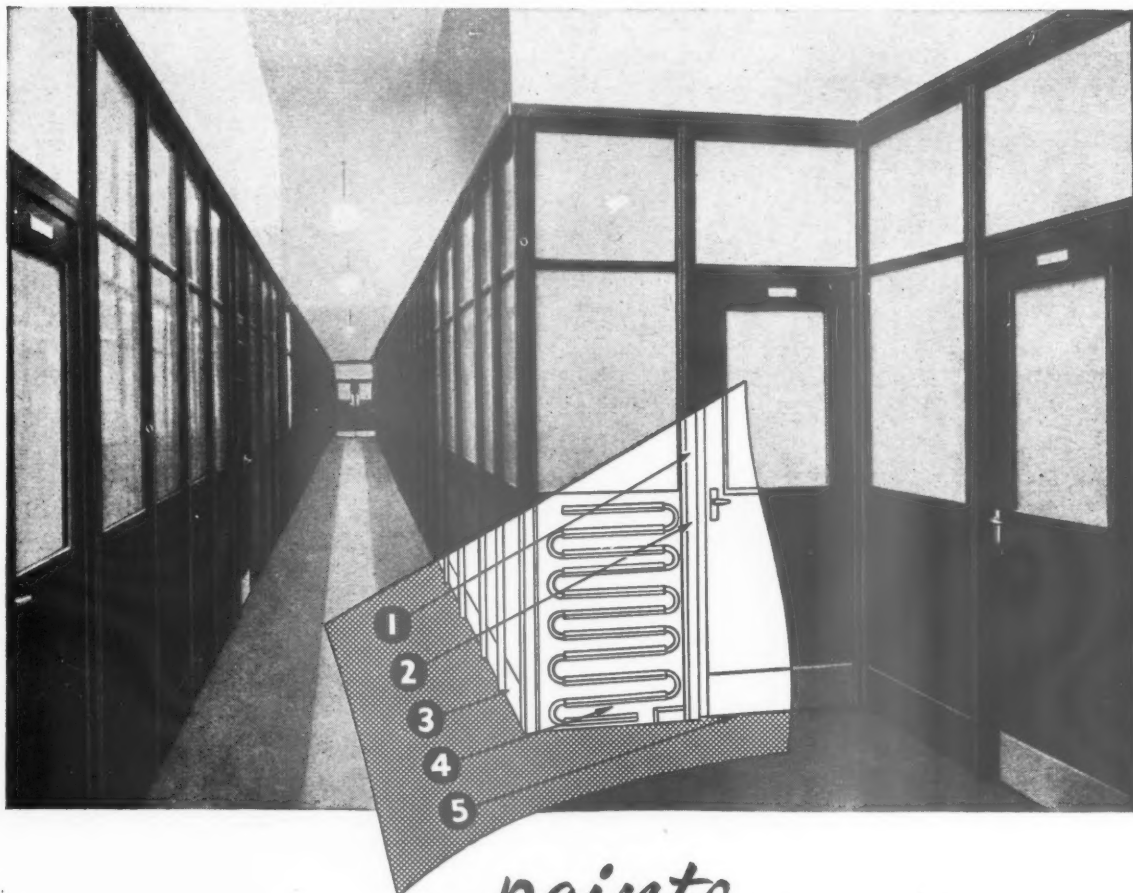
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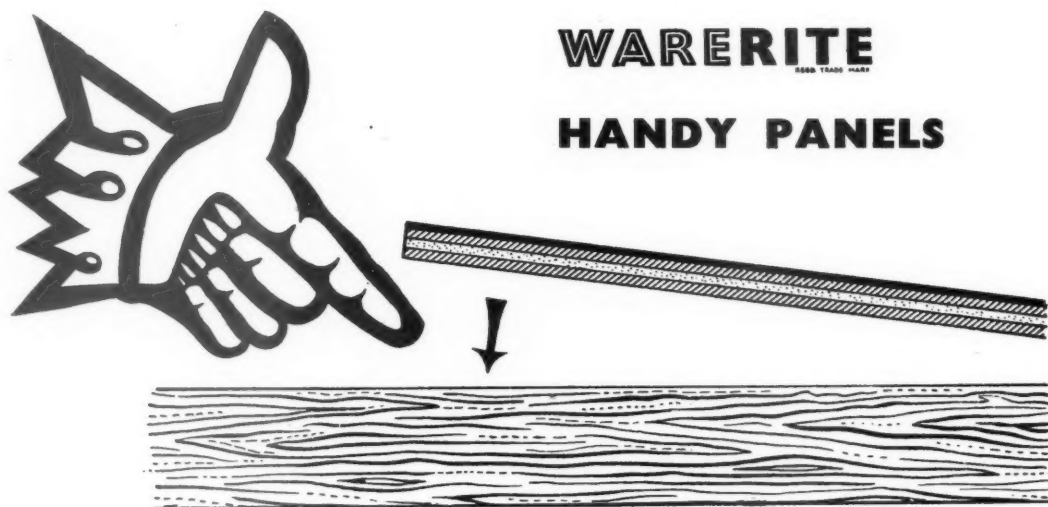
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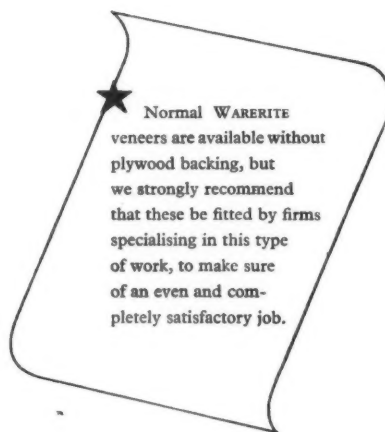
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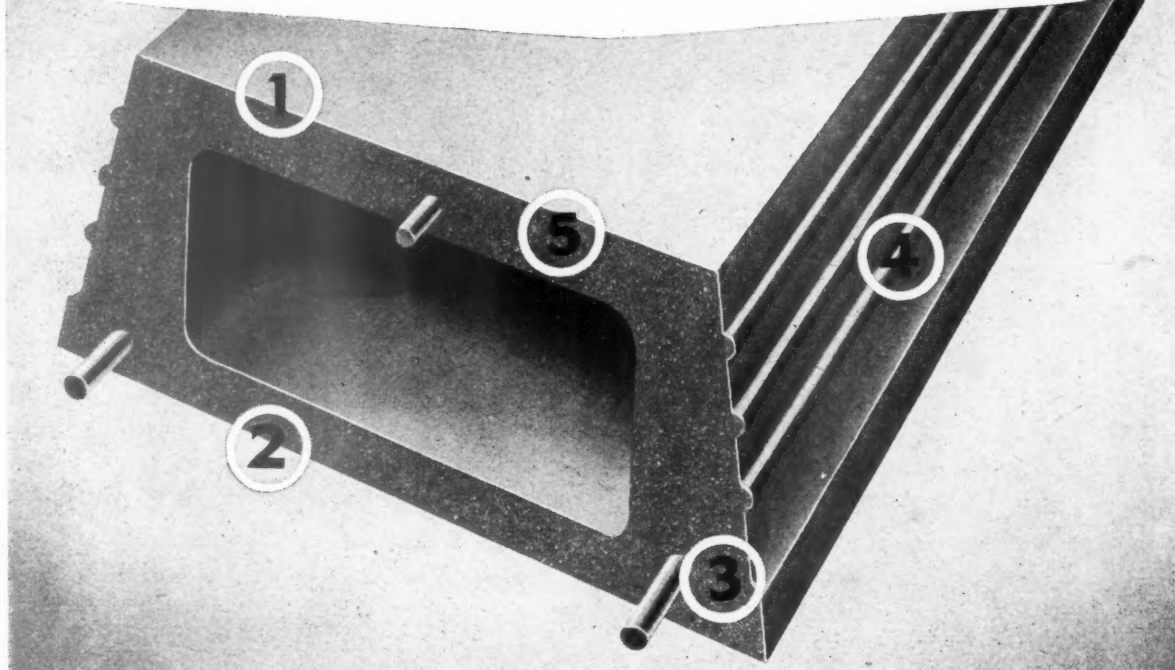
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*Architect and engineer: Sir Owen Williams and Partners.
Main contractors: Messrs. W. & C. French Ltd.*

G SPECIFICATIONS

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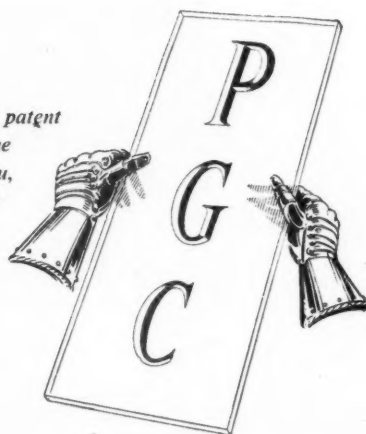


A close-up view showing the glazing and supporting structure from underneath.



A general view of the interior of one of the hangars.

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Lower photograph (by courtesy of Messrs. Rayners (Buildings) Ltd.) shows Model No. 2 fittings at a Guildford garage. Model No. 2 is used for clearances of 2in. or more.

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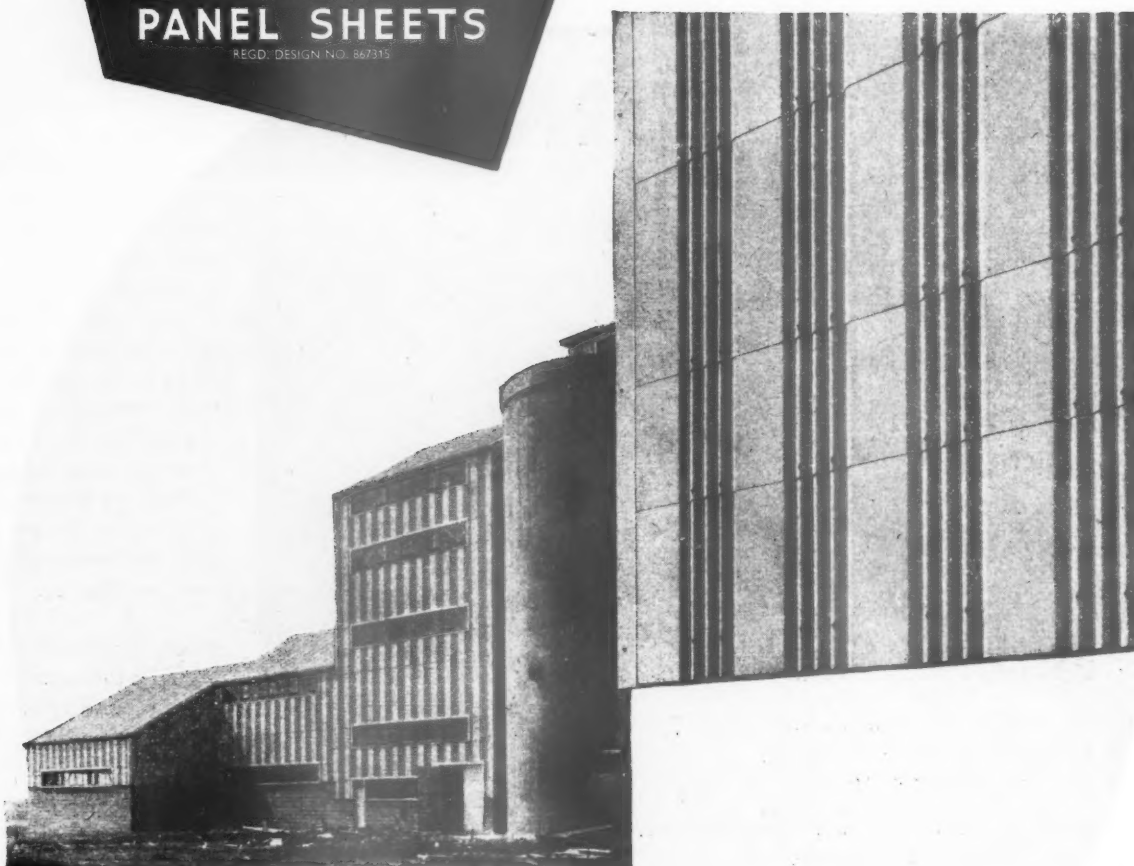
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QFT. 104

copying

To claim that copying costs come down with AZOFLEX is a bold statement — but one that happens to be very true. AZOFLEX photo-printing machines and materials provide the ideal means of producing inexpensive, high-quality facsimiles of drawn, typed or printed originals of all kinds — single or double-sided, translucent or opaque. Many important industrial, commercial and professional organizations have already proved the economy and effectiveness of the AZOFLEX process.

costs

The simplicity and cheapness of AZOFLEX are quite startling. With the Model 42/63 Mark II Combine Printing and Developing Machine illustrated here, for example, one *unskilled* operator need only feed originals and copying material into the machine in order to produce a steady output of finished prints, dried, flat and ready for trimming and collating. Exposing, developing and print delivery are completely synchronized.

come

With the AZOFLEX method, money is saved because not only does it eliminate the need for specialist operators, but neither darkroom accommodation nor water and drainage services are required, and the materials themselves are inexpensive. AZOFLEX also cuts costs by speeding up output and by giving copies of greatly improved quality even from poor originals.

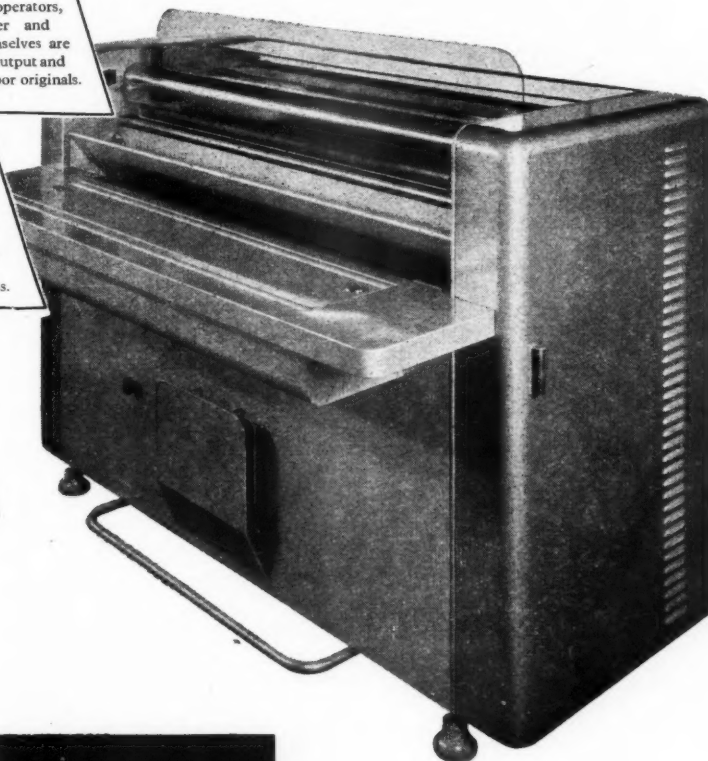
down

There is a comprehensive range of AZOFLEX printing and developing machines and a wide variety of AZOFLEX photo-printing materials designed to meet the needs of every type of organization. AZOFLEX creates no mess or unpleasant smell, while the materials are very easy to handle and process.

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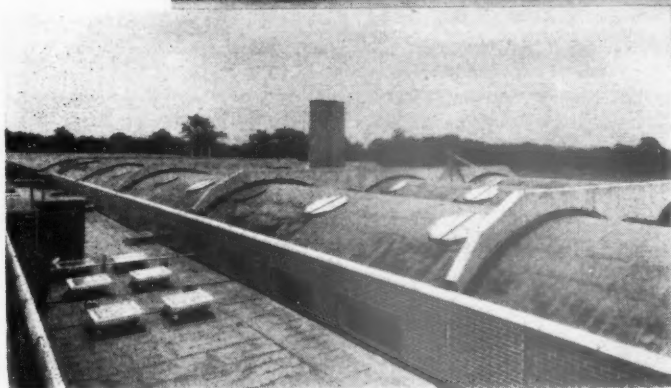
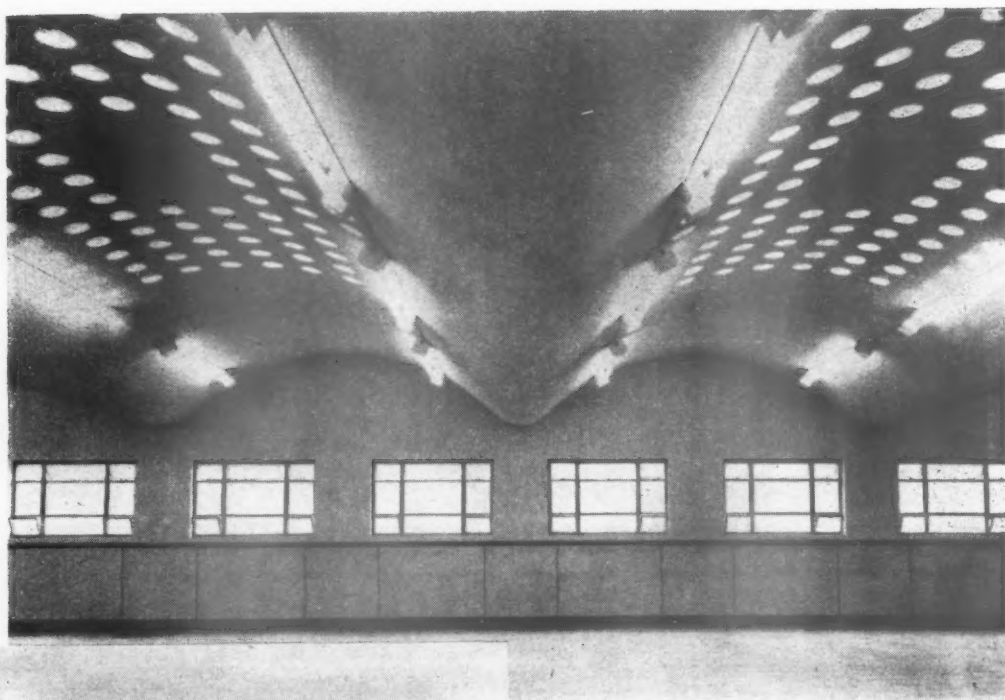


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ABOVE:

Shows the regular lighting and the clear surface of the interior of the Bradford Barrel Vault roof.

LEFT:

Shows finished outside appearance. The Barrel Vault principle is also used for single barrel or North light types of construction.

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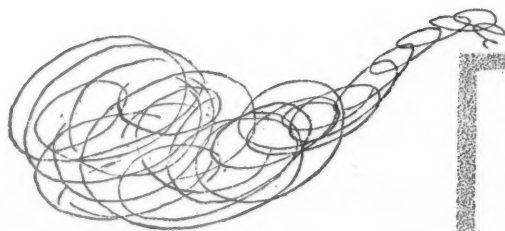
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No heaters? Plenty! Trouble is, the building leaks heat like a sieve—especially through the roof! What's the answer? *



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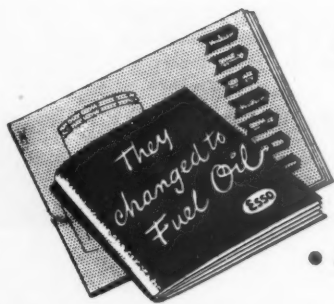


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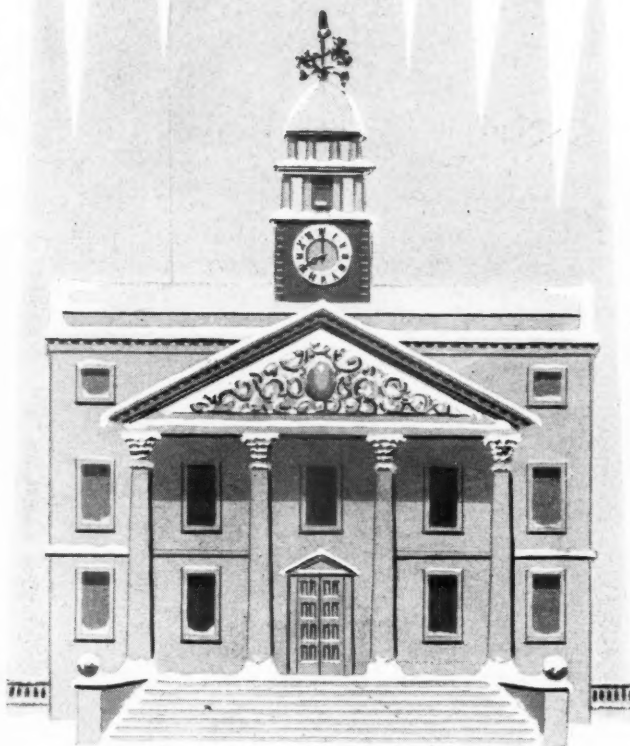
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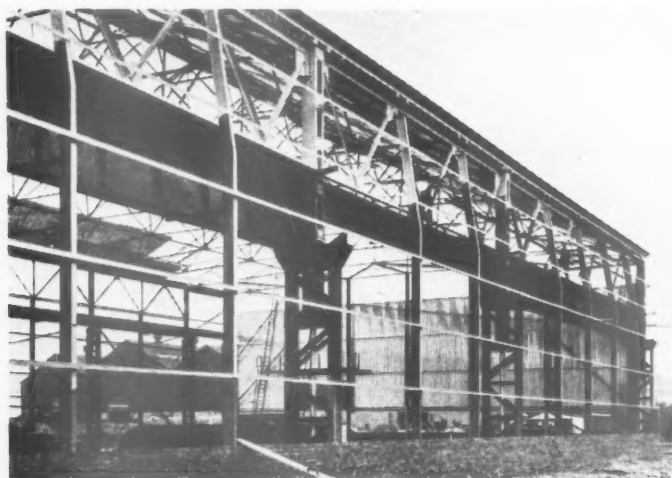
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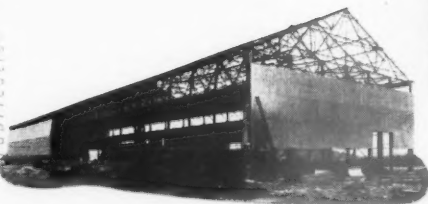
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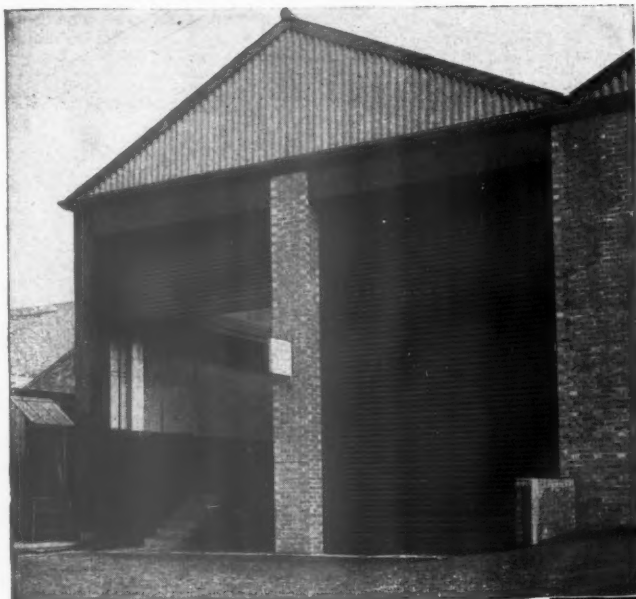
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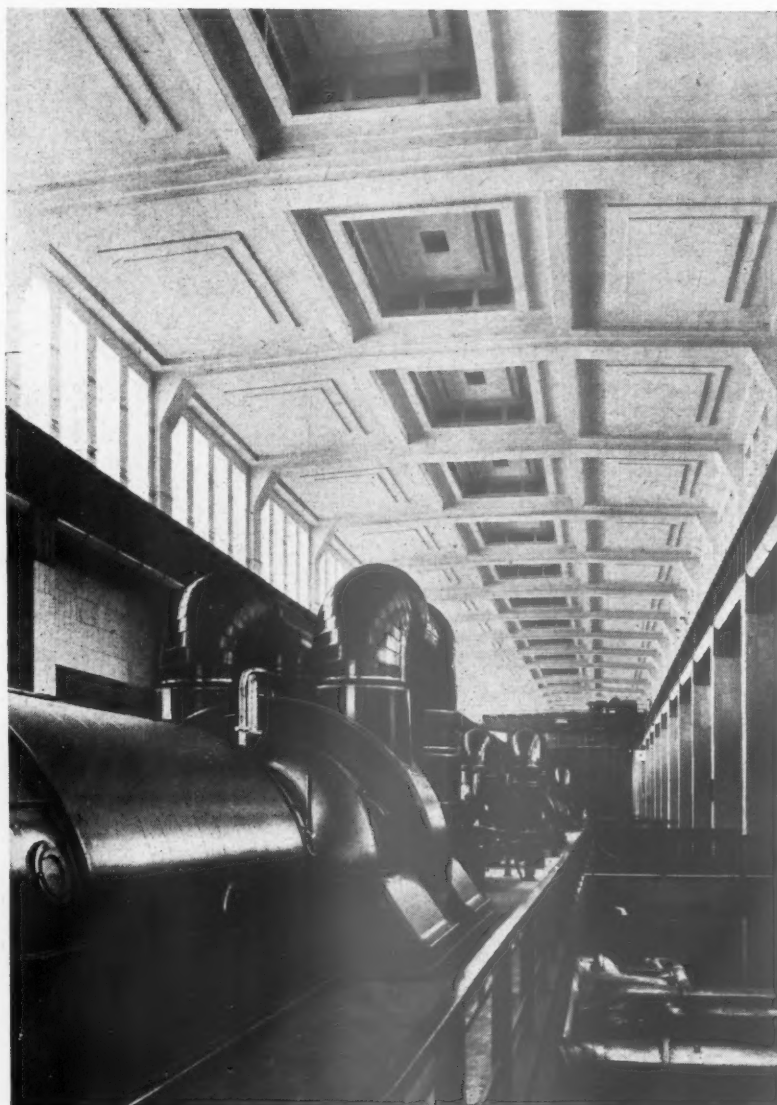
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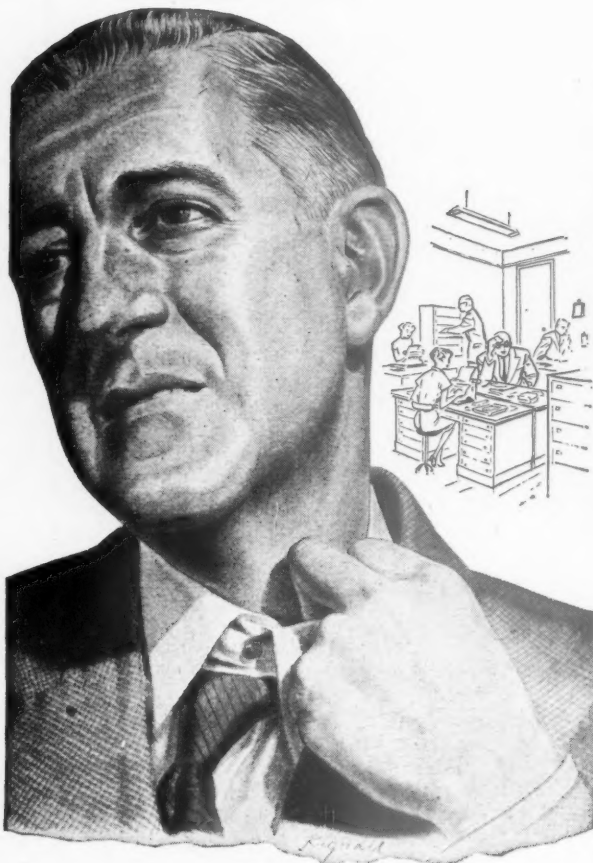


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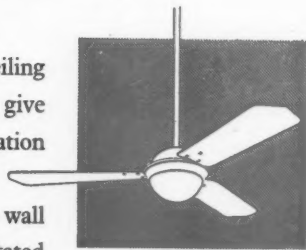
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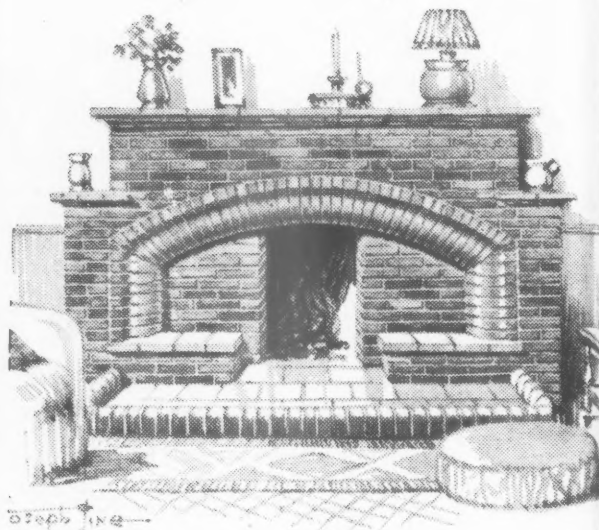
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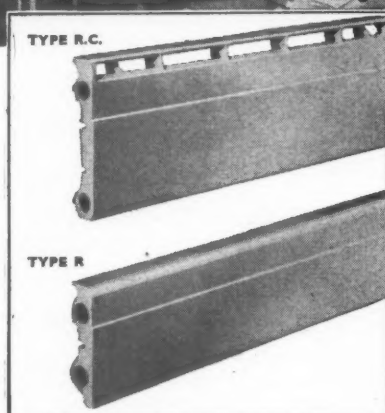
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The Crane skirting heating system



The main illustration shows both types of Crane Skirting Heating installed. The 9" type 'RC' is particularly suitable for use under large windows with low sills. Also for public buildings such as libraries and art galleries, etc. Manufactured in 2' lengths only. The 6" type 'R'—for flats and houses—is also manufactured in 2' lengths. On walls where heating is not required, matching wood skirting can easily be included for continuity. Both types are normally delivered unassembled unless otherwise instructed. Standard pipe connections $\frac{3}{4}$ "—both types. Crane Skirting Heating is primarily designed for inclusion in buildings in the course of construction, but can also be installed in existing property.

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CRANE Cast Iron Skirting Heating is virtually invisible—yet it distributes warmth evenly to every point in the room! It simply takes the place of normal wooden skirting, leaving the entire floor space of the room free from obstruction, and can be finished in any colour to fit in with decorative schemes. Here indeed is a heating system that gives unlimited scope for 'free' architectural planning and interior decoration.

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Mean water temp. in heater	160°F				170°F				180°F				190°F			
Room Temp.	55°	60°	65°	70°	55°	60°	65°	70°	55°	60°	65°	70°	55°	60°	65°	70°
6" high Type R	200	185	175	165	225	210	200	185	250	235	220	205	275	260	250	235
9" high Type RC	510	470	450	420	570	530	510	470	630	600	570	530	690	660	630	600

These figures were achieved in conjunction with a Crane Boiler

CRANE BOILERS AND HEATING EQUIPMENT

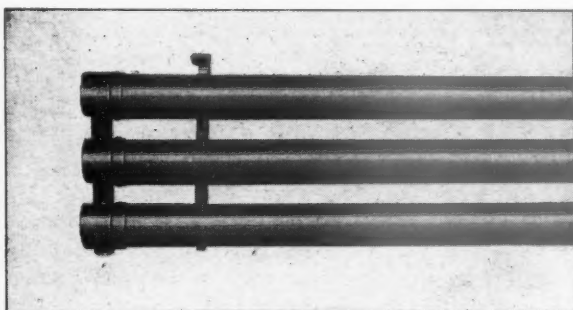
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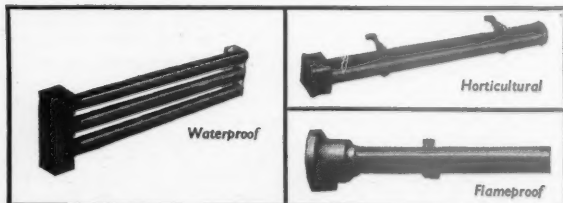
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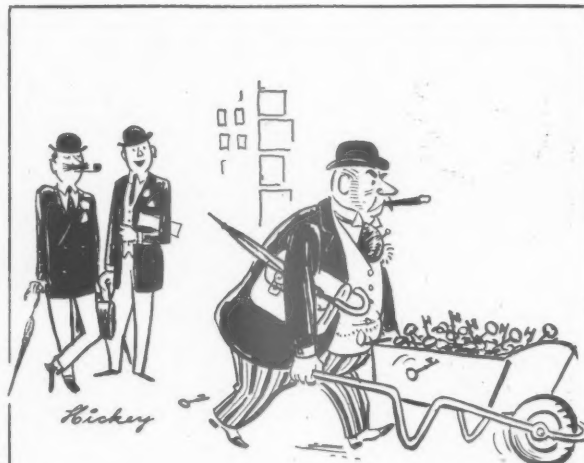
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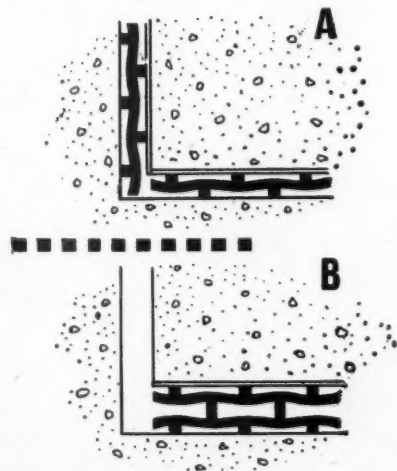
The Test Beds illustrated show the application of D.S.P. Carpet Mounting to Engine foundations providing isolation from the surrounding structure. The method of application of the Anti-Vibration carpet is decided by the vibration characteristics of the individual Engines.

A three cylinder G.M. and a single cylinder Caterpillar Diesel Engine used for testing Lubricating Oils are mounted side by side.

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Photo : Staff canteen of the National City Bank of New York, London, E.C.2.

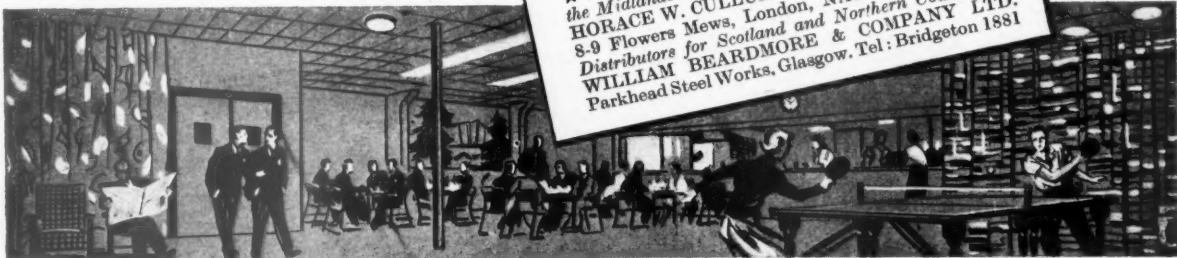
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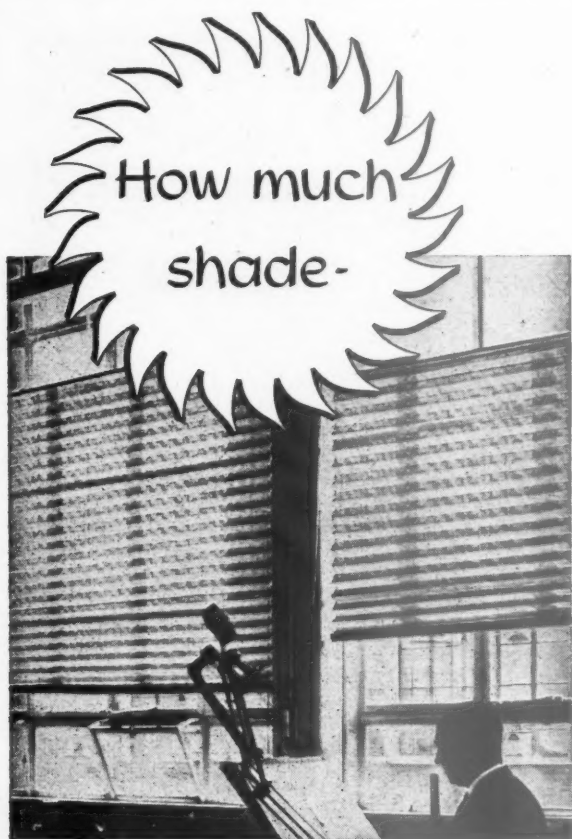
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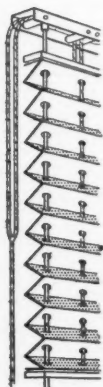


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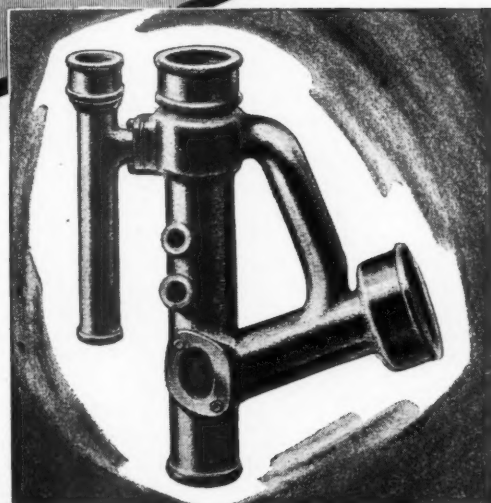


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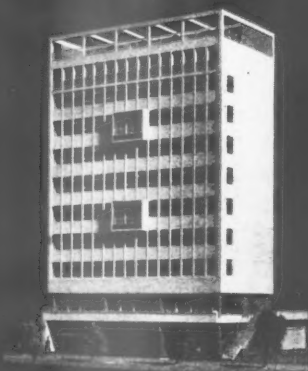


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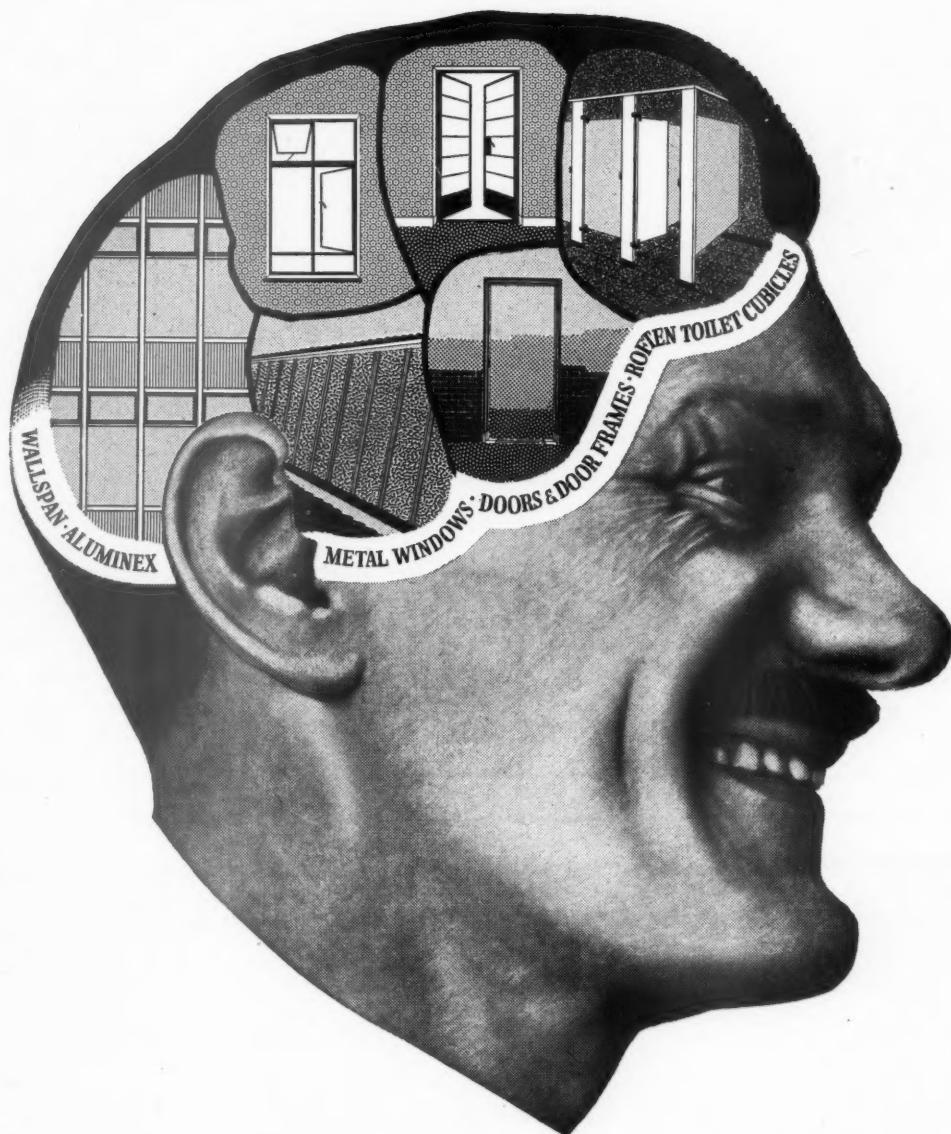
The January 1954 special Preview issue of *The Architectural Review* aroused great interest throughout the profession and rapidly went out of print. A similar Preview issue will therefore be published in January, 1955. It will survey the most interesting buildings to be erected in Britain next year, illustrating over

fifty projects by means of plans, perspectives and photographs of models. Most leading architects are represented and news is given of several important projects not previously disclosed. *The Architectural Review* is published monthly, price 5s.; the annual subscription is £2 18s. 0d. post free.

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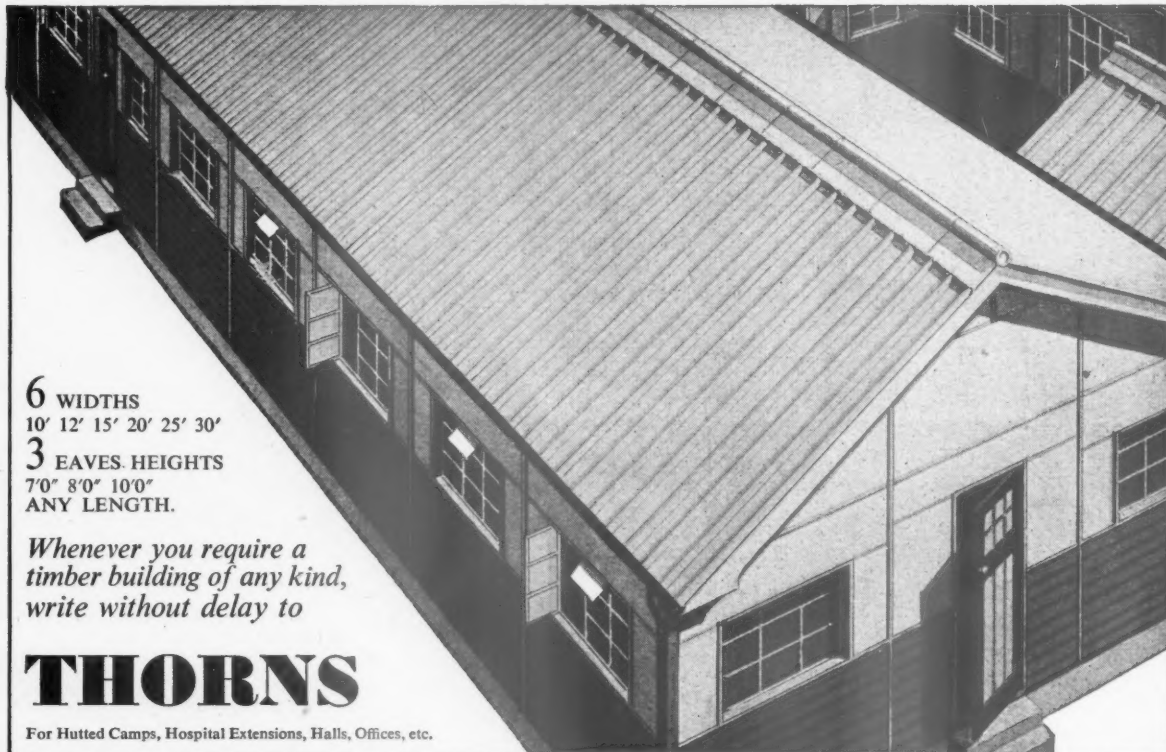
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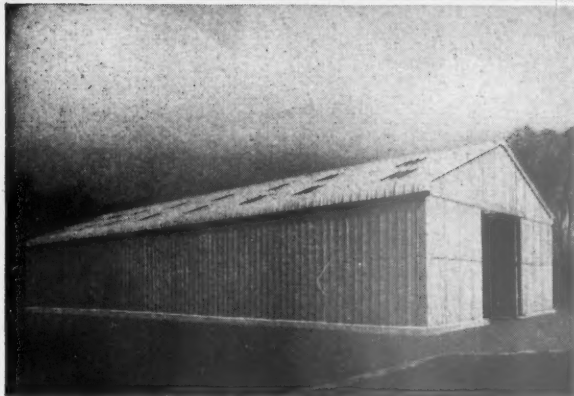
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We are very glad that "International" was specified for this particular building. It is a garage of striking design, and colour plays an important part in it. Colour is one of the main concerns of our Architects' Department and in this case their Colour Advisory Service provided schemes for the canteen forming part of this garage.

This was only a part of the International Service provided. Recommendations for the treatment of certain surfaces were adopted in the painting specification and our Technical Staff made regular visits to

the site while painting was in progress. At the request of the architect, they recommended a method of treating concrete barrel roofing to overcome the effects of rust scale deposited by steel shuttering.

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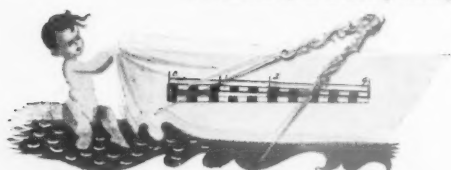
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No. 3118 December 2, 1954 VOL. 120

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CITY REBUILDING

The New Barbican scheme for the development of 40 acres in the City of London today goes before the Court of Common Council of the City Corporation. This comprehensive scheme, which was prepared—in diagrammatic form—by Sergei Kadleigh, Patrick Horsbrugh and W. Whitfield, has so far pleased the City authorities just as little as a smaller 27-storey project for the same site pleased Dr. Fisher, the Archbishop of Canterbury.

*

What are New Barbican's chances of getting past the Court of Common Council? The Corporation's improvements and town planning committee say that the scheme would result in the erection of buildings lacking in ameni-

ties (whatever they may be) and daylight. The City planning officer has said that no attempt has been made to comply with present planning standards and that the density of development is excessive. And if Messrs. Kadleigh, Horsbrugh and Whitfield needed any further discouragement they got it in the recent words of Charles Glenly, Chairman of the Corporation's Planning Committee. "Our square mile," he said, "is too small for experiments or the exploitation of modernistic art. . . . We will not countenance side by side with the City, as we love it, a Wellsian conception of what a City of the future ought to be."

*

If the Corporation's views on planning and aesthetics are not disheartening enough for the New Barbican architects, they can take new discouragement from the Corporation's repeated moans about the effect of comprehensive development on the rates. (If the Corporation is to control the whole site it must buy up the whole area, and the loans it would have to acquire for this would, it claims, push rates up). But what will happen if the New Barbican scheme is turned down? ASTRAGAL has been trying to find an answer in recent issues of *City Press* (a newspaper which would appeal to Dr. Fisher) and is more perplexed than ever. It appears that in addition to the New Barbican scheme and the 27-storey project which Dr. Fisher dislikes, there are four small projects in existence. If any of these smaller schemes is approved by the City Corporation it will go before the London County Council. But it seems that the LCC's architects' department, which has produced its own plans for the area, advocates that the design of

the whole area should be worked out and that subsequently developers should be found to fit in with it. It is hardly surprising that the chairman of the Corporation's planning committee has offered "to relieve the London County Council of much of their labour on our behalf."

*

While you are working out the chances of the City Corporation's getting the city it deserves, let me pass on the Awful Warning of the week from the *City Press*. "Colonel W. W. Dove, C.C., Master of the Carpenters Company . . . warned that these (the City's) buildings will be without architraves, stone courses, mouldings or cornices." Before we leave the subject altogether, let me congratulate the *Evening Standard* on publishing Nikolaus Pevsner's excellent reply to the Archbishop's remarks about tall buildings in London. But let us hope that the *High Barbican* scheme referred to in this article is not yet another proposal, but merely a slip of the pen.

NO MORE RED EARS

ASTRAGAL, who has never enjoyed the game of bluff he has to play with the builder whenever he makes a site visit, is glad to see that there is now a book on site supervision. This book,* by A. A. Macfarlane, is described as "a handbook for architects and assistants" to which the author (to quote from the blurb on the dust cover) "explains with precision what are the things to look for and how to find them, what questions to ask and of whom to ask them, what instructions to give and to whom to give them," and so on.

* "Site Supervision." By A. A. Macfarlane. Architectural Press. 16s.

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Readers won't find *all* the answers there, but they will certainly find a good sixteen shillings worth of them. On the site, Mr. Macfarlane certainly has the advantage of knowledge and experience. He also has the advantage (which ASTRAGAL bitterly envies) of a Scots accent, for this must make it so much easier to induce the right degree of camaraderie-cum-respect. So long as present relationships endure, the game of site poker must go on. But it is a great thing to have a view of the other man's hand, and a guarantee against redness of the ears and warmth beneath the collar.

HOW OTHER COUNTRIES BUILD

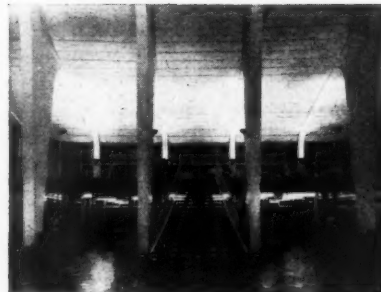
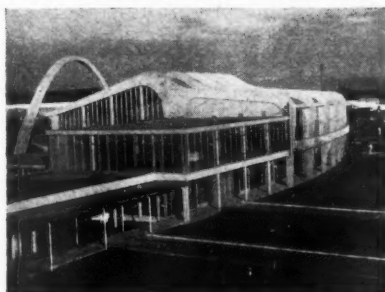
If you want to know what is happening in the building industry in other countries, you should read the new monthly magazine called *Structure*, which is being published by the European Productivity Agency. This magazine, which is trilingual—one of its languages, you will be interested to know, is very nearly English—has got as far as its third issue, which is concerned with mechanical equipment and the UN House and Building Productivity Statistics. Subjects to be dealt with later include Prefabrication, the Use of Wood in Building, the Heating of Blocks of Flats, and Electricity in the Home. If other nation's work on these matters is brought to light in the magazine, EPA will be doing a really useful job. If you want to take a chance—and it seems well worth taking—£2 10s. sent to Les Editions Internationales de Construction, 88, Boulevard Murat, Paris 16, will bring you twelve issues.

STRUCTURAL ROMANTICISM

The sense of structural daring and high adventure which characterizes any new form of transport is often difficult of expression in its ancillary buildings—the failure of the last century to deal with the railways, in spite of the Euston propyleum and the clear arches of Kings Cross, is notorious. But are we doing any better for air travel?

*

The mere fact that the question is in doubt adds importance to William Kinnimonth's bold essay in structural drama and enticing transparency at the new Renfrew Terminal (see above)—an attempt to put the architecture, and the traveller, in tune with the romance



This £260,000 terminal building at Renfrew—the airport for Glasgow—was opened last week. The architect was William Kinnimonth. The top picture shows the reinforced concrete arch, at the entrance, on which the roof of the main concourse is suspended. This cantilever construction, with its double glass walls, is designed to provide maximum space and light. Above left is the airfield side of the building. Above right is the main entrance hall, which contains passengers' lounges, a buffet and a cocktail bar. The stairway leads to a dining gallery, from which visitors can watch planes arriving and departing.

of air travel, and to provide those who have to wait for planes with a view, not of gratuitous Grand-Hotel monumentality, but of the wide sweep of the tarmac and the bustling poetry of departures and arrivals.

UNIMPRESSED TRAVELLER

Unlike most travellers who return from foreign parts with their eyes bulging and their tongues hanging out with excitement, Peter Moro, in his report on current German architecture (at the ICA), struck a note of depressing realism which seemed to rivet the attention of his hearers more effectively than a rhetorical enthusiasm might have done.

*

Most contemporary German architec-

ture, he suggested, is dull, repetitious and ham-fisted. This he attributed not so much to the personal qualities of German architects as to the conditions under which they exist—the legacy of Nazism, when style was dictated from above and the schools were demoralized by ideological pressure. Also to blame were the *carte blanche* given by post-war German governments to developers to build anything as long as they built something, and thus kept men in employment, and the resultant high pressure finance, with mortgage rates so high that every day lost was a small fortune down the drain, and erection time and design time had therefore to be cut to the minimum. German architects were building too much, too fast, and had no



Browsers Invited

This room, which will be familiar to some readers, is the reading room provided by the JOURNAL's publishers, *The Architectural Press*, in their house at 9, Queen Anne's Gate, S.W.1. The current list of the firm's publications which may be seen here includes books by or about Le Corbusier, Sigfried Giedion, Walter Gropius, Howard Robertson,

Frederick Gibberd, F. R. S. Yorke, Alvar Aalto, J. M. Richards, John Piper, C. C. Handisyde and Peter Shephard. These, and many others, together with *Information Sheets*, *Working Details* and back numbers of the JOURNAL and the *Architectural Review* may be browsed through in comfort. The room is open from Monday to Friday in office hours.

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time to think. There was a lot to be said, Mr. Moro believed, for English laziness.

*

Prices were about double what they were in Britain, he said; but the product was often twice as good in mechanical quality. Patrons were men of no particular taste, but they were often fabulously rich and could gratify every whim, from gold-plated coat-hooks to pitched roofs on a curved plan, so that every slate had to be cut differently—and not only that, they were also graded for size from top to bottom, just for fun.

SOANE'S TOMB

A modest note from the Soane Museum has drawn ASTRAGAL'S attention to an act of architectural piety which is the more praiseworthy for the roundabout way in which it had to be carried out. The pious act was the cleaning, repairing and re-lettering of Sir John Soane's family tomb in Old St. Pancras churchyard, which backs up to the railway sidings and has, in consequence, about the most destructive atmosphere to be found in London. The tomb had got into a very bad state, but the palaver and negotiations that were required to get the necessary repairs done make quite a saga.

*

The Trustees of the Soane museum were prevented (by the Act which constituted them) from spending the museum's funds on such work, although they have always accepted their moral responsibility for it. The land on which the tomb stands belongs to the Borough Council, who disclaimed responsibility for the tomb itself, which, in fact, had no owner. The Trustees asked the Society of Antiquaries to become sponsors of the tomb for purposes of its restoration, and the Antiquaries then appointed the Curator of the Soane museum, John Summerson—who is a member of the Society anyhow—to act on their behalf in the matter. An approach could then be made to the Pilgrim Trust, who generously stumped up the necessary money, and the great Regency architect's last resting place is now graced by a worthy monument. Moral: a straight line is not the only distance between two points.

ASTRAGAL

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Structural techniques used on Corbusier's Unité 2 ..	page 689

The Editors

COSTS AND PRE-PLANNING

THE cost of building can and should be reduced by the pre-planning of building operations. This was a point on which there was no disagreement when costs were discussed, last week, at the Building Centre. It is true that some speakers at this meeting—which was organized by the MOW and the Brixton School of Building—had something to say about the snags of pre-planning: the uncertainties of climate, materials delivery, unknown sub-contractors, clients' decisions, architects' instructions, and so on. But they were in favour of pre-planning, and were looking for snags only in the hope that they could find a means of overcoming them. They were agreed that industrial technique should be used in building, that man-hours should go down and machine hours should go up, that there should be a closer collaboration at all levels, and that training for supervisory staff should be more satisfactory.

The most public-spirited contribution to the discussion was made by the one speaker who was not in the building industry—the industrial consultant. This speaker, E. F. L. Brech, said that by comparison with other industries, the standard of

The names of the JOURNAL's Guest Editors for 1955—a team of experts who will conduct an investigation into the cost of building—will be announced next week.

management and organizing ability among builders was deplorable; that pre-planning was not just another task—it was an attitude of mind. He suggested that the foreman, whose job it might be to improve methods of doing things on the site, was too busy looking after matters that should have been tied up in the programming, and that the bill of quantities should be replaced by a more informative document—of use at every stage to all engaged in the organizing of a contract. His forthrightness was received with good humour, but not without dissent.

We welcome the holding of meetings such as this. We believe that a concerted drive for higher efficiency in building and the reduction of cost (and price) which should surely follow, is now most urgently needed. We believe also that the only one who has the status to initiate such a drive is the architect, for he is the titular leader of the building team. It is for this reason that we are appointing as next year's Guest Editors a team which will examine all aspects of the cost of building.



NEW BARBICAN

Decision This Week?

The New Barbican scheme for the development of 40 acres in the City of London today goes before the Court of Common Council of the City Corporation. This scheme, which was prepared by Sergei Kadleigh, Patrick Horsburgh and William Whitfield, was described and illustrated in the JOURNAL on October 14. ASTRAGAL comments on page 665.

ABBEY THEATRE

Michael Scott's Plans

The following note on Dublin's proposed rebuilding of the Abbey Theatre was written by a correspondent:—

Michael Scott, who was asked to prepare a design for a new Abbey Theatre in Dublin, after the old theatre was burned down in 1951, will have sketch plans ready for appraisal by the new year. If these plans are approved, the Abbey Theatre (to seat 600) will have another theatre, The Peacock, on top of it. That is the only way Mr. Scott can satisfy his clients' wish for the two theatres to be built on the one site.

It is being said, in what is usually known as "some quarters," that the Government, which is financing the project, ought to take steps to enlarge the Abbey Theatre's site. If the few buildings between the site and the nearby river were demolished, then the new Irish national theatre could be a much more interesting building. Mr. Scott would undoubtedly welcome the opportunity of placing the two theatres side-by-side (or even back-to-back), with—perhaps—a common scenery store, on a site where each could command a view, from foyers or bars, over the river.

However, the Government has no power (without passing a special Act) to requisition the buildings (a garage, a café and a block of offices) which lie between the theatre site and the river. It remains to be seen whether public opinion will be strong enough to allow the new Abbey Theatre to be as exciting as Michael Scott could make it.

RIBA

Exhibitions for 1955

An exhibition entitled "German Architecture Today" is to be shown at the RIBA, 66, Portland Place, W.1, from February 25 to March 24, 1955. It is being prepared by the Bund Deutscher Architekten and is sponsored by the Bonn Government. The exhibition is divided into sections dealing

with the following types of building:—Business, Industrial, Official, Exhibitions, Private Houses, Public Housing, Schools, Churches, Cultural Buildings, Sports Buildings and Gardens. A special section will illustrate the work of the pioneers of the Modern Movement in Germany from the beginning of the century up to Gropius.

In April an exhibition of Mexican contemporary architecture is to be shown.

It is being designed and the material selected by the Society of Mexican Architects and sponsored by the Mexican Government and the National College of Architects. The exhibition will be brought to London by the Mexican Embassy.

EXHIBITION

Fuel Ash Products

A correspondent writes the following:—

The exhibition of pulverised fuel ash products which BEA are holding at their headquarters in Winsley Street, W.1 (open until December 11) raises the question of what response BEA is going to receive from the Building Industry. The possible applications of pulverised fuel ash seem almost limitless. Commercial uses so far include bricks, concrete, concrete-type building-blocks and light-weight aggregate. In all of these spheres the use of pulverised fuel ash promises a product which is either cheaper to manufacture or intrinsically superior, or both. Unfortunately, so long as the building industry is making enough money without the extra exertion of adapting itself to a new technique, motives such as these tend to be disregarded. To date about half a dozen brickyards are using fly ash to spin out their supplies of clay. There are three brands of pulverised fuel ash blocks on the market, and in the north-west ash is being marketed as a part substitute for cement in concrete. A number of the larger contractors are planning to manufacture pulverised fuel ash light-weight aggregate for their own use and for the general market. Nevertheless, we have a long way to go before we can use up the two million and more tons of this new building material which our power stations are turning out every year. Granted so that so useful a by-product cannot be ignored indefinitely, it will be interesting to see if manufacturers will take up the supply before BEA are compelled to exploit it themselves in the public interest.

MOW

Prefabs for Sale

Several hundred temporary houses erected in the London area and in some provincial towns during the immediate post-war years are shortly to be offered for sale by tender. The sites on which they stand are required by local authorities for permanent housing schemes.

The MOW is inviting tenders for purchase of houses, dismantled, either singly or in bulk. Notices will be sent to applicants who wish to tender, when houses become available. Tender forms can now be obtained from MOW (Disposals T.H.), Great Westminster House, Horseferry Road, London, S.W.1. Intending purchasers are warned, however, of difficulties facing the private buyer. Successful tenderers must pay for and remove any building bought within a few days of their tender being accepted. Material involved weighs about ten tons.

The Ministry also draws attention to the fact that before the bungalows may be re-erected again elsewhere, permission, under planning control and bye-laws, must be

obtained from the local council concerned. Prospective purchasers are advised to ascertain the current position in the area in which it is proposed to rebuild the house.

TRIENNALE

Awards to Britain

The International Jury at the Tenth Triennale in Milan has made seven awards to the British designers whose work was included in the British Exhibit.

The Gran Premio, the highest award of all, goes to Lucienne Day for her textile designs which are produced by Heal's.

Gold medals go to Robin Day for the design of Hille Furniture and to Ernest Race for the design of Race Furniture.

A further gold medal goes to Lucie Rie and Hans Coper for their ceramics, and John Reid has been awarded a silver medal for light fittings made by George Forrest & Son Ltd.

Lucienne and Robin Day, Ernest Race and John Reid are all Fellows or Members of the Society of Industrial Artists.

RSI

Exhibition Extended

The exhibition on Single Stack Drainage for Multi-Storey Flats at the Royal Sanitary Institute, has proved so successful, drawing 4,000 visitors in its first two weeks, that it has been decided to keep the four-storey full-scale model on view in the Institute's Museum of Hygiene after the date announced for the closing of the exhibition.

The installation will be available for inspection (from 10 a.m.-5 p.m. on Mondays to Fridays, 10 a.m.-12 noon on Saturdays) until January 4, 1955. Talks and demonstrations will again be given by experts from the Building Research Station on Wednesday, Thursday and Friday, January 5, 6 and 7, from 10.30 a.m. to 6.30 p.m.

Parties of ten or more wishing to see these additional demonstrations are advised to notify the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1, of the date and time of their intended visit and the number in the party.

DIARY

The Profession of the Land. Talk by P. H. White at an Engineers' Guild Ltd. (Metropolitan Branch) Meeting. At the Caxton Hall, S.W.1. 6 p.m. DECEMBER 2

The Landlord and Tenant Act, 1954. Talk by W. E. A. Bull. At the RICS, 12, Great George Street, S.W.1. 5.30 p.m. DECEMBER 6

Art History and Contemporary Art. Talk by Basil Taylor. At the RIBA, 66, Portland Place, W.1. 6 p.m. DECEMBER 7

Can a Community be Created? Discussion at the HC Trust, 13, Suffolk Street, Haymarket, S.W.1. 1.15 p.m. DECEMBER 7

Building in Singapore: An Historical Review of Tropical Architecture. Illustrated talk by T. H. H. Hancock. At the AA, 34, Bedford Square, W.C.1. 6.15 p.m. DECEMBER 8

Watercolours and Drawings by Kenneth Rowntree. Exhibition at the AA, 34, Bedford Square, W.C.1. UNTIL DECEMBER 23

LOW



Front elevation



First floor



Ground



First floor

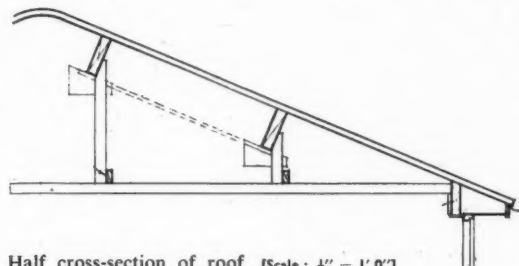
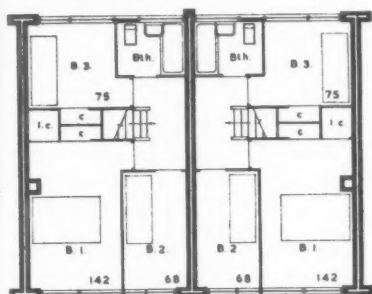


Ground [Scale]

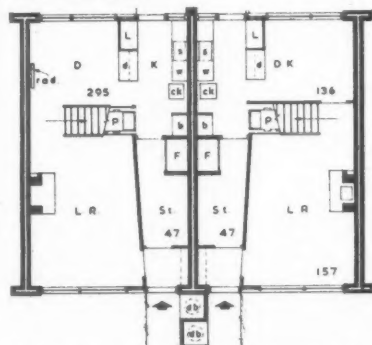
LOW COST HOUSING AT CANTERBURY



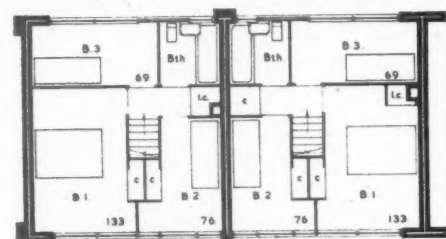
Front elevations of narrow and wide frontage houses

Half cross-section of roof [Scale: $\frac{1}{4}'' = 1' 0''$]

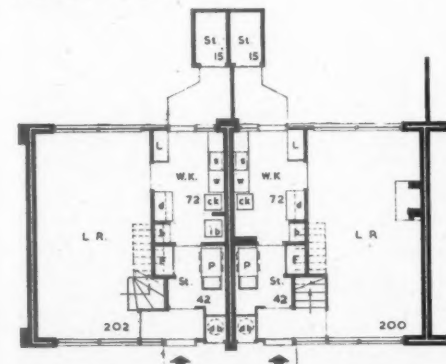
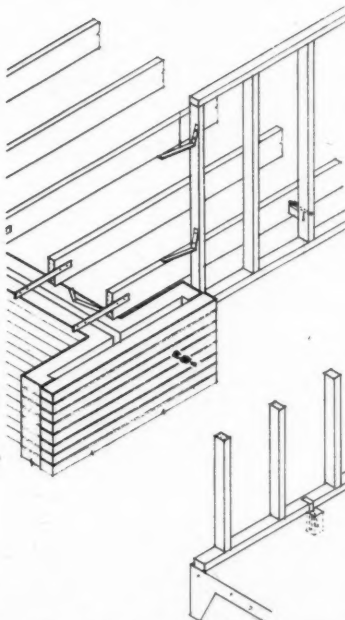
First floor plan



Ground floor plan (narrow frontage type)



First floor plan

Ground floor plan (wide frontage type)
[Scale: $\frac{1}{16}'' = 1' 0''$]Isometric showing panel walls at ground and first floor [Scale: $\frac{1}{4}'' = 1' 0''$]

At the invitation of MOHLG, and with the co-operation of BRS, the Canterbury City Architects Department (under L. Hugh Wilson), have built 36 houses for slightly under £1,000 each. This excludes the cost of land and services and represents a saving of about £50 or £60 over the average costs for the district. The saving seems to have been made mainly because of the straightforward constructional design, the use of lightweight materials, and the building of the houses in terraces.

PLANS: There is an 18-ft. and a 15-ft. frontage type—both built in terraces. Partitions on the ground floor are of $4\frac{1}{2}$ -in. brick and 3-in. block; on the first floor they are 7-ft. 6-in. high plasterboard panels.

HEATING: Two alternative methods for each type are used. For the wide frontage type: a domestic boiler in the kitchen supplying hot water and a radiator in the living room, or an open fire in the living room with back boiler for hot water only. For the narrow frontage type: a downward burning convector fire in the living room with back boiler for hot water and one radiator in the dining space, or a convector fire in the living room with back boiler for hot water only.

WALLS and FLOORS: Party walls are 11-in. cavity brickwork and carry both first floor and roof. External walls below ground and first floor windows are timber-framed, clad externally with a 2 coat render on chicken wire on 1-in. woodwool on felt; internally with a skim coat on plasterboard faced (towards the framing) with foil. The timber framing is pressure-cresoted and tied to concrete and brickwork with galvanised straps. Floor joists—7 in. \times 2 in.—are tied into brickwork, and covered with $\frac{3}{4}$ -in. square edge boarding. Ground floor finish is asphalt. **ROOF:** 12-in. by 3-in. purlins span between party walls and are covered with wire netting, felt and corrugated asbestos sheeting with a purpose made curved ridge. Like the joists, the roof timbers are tied into the brickwork. Ceiling joists are 3 in. by $1\frac{1}{2}$ in. at 18 in. cc., and between them is a 1-in. layer of exfoliated vermiculite laid on the plasterboard ceiling. **WINDOWS:** Metal casements in wood surrounds.

SPORTS CENTRE

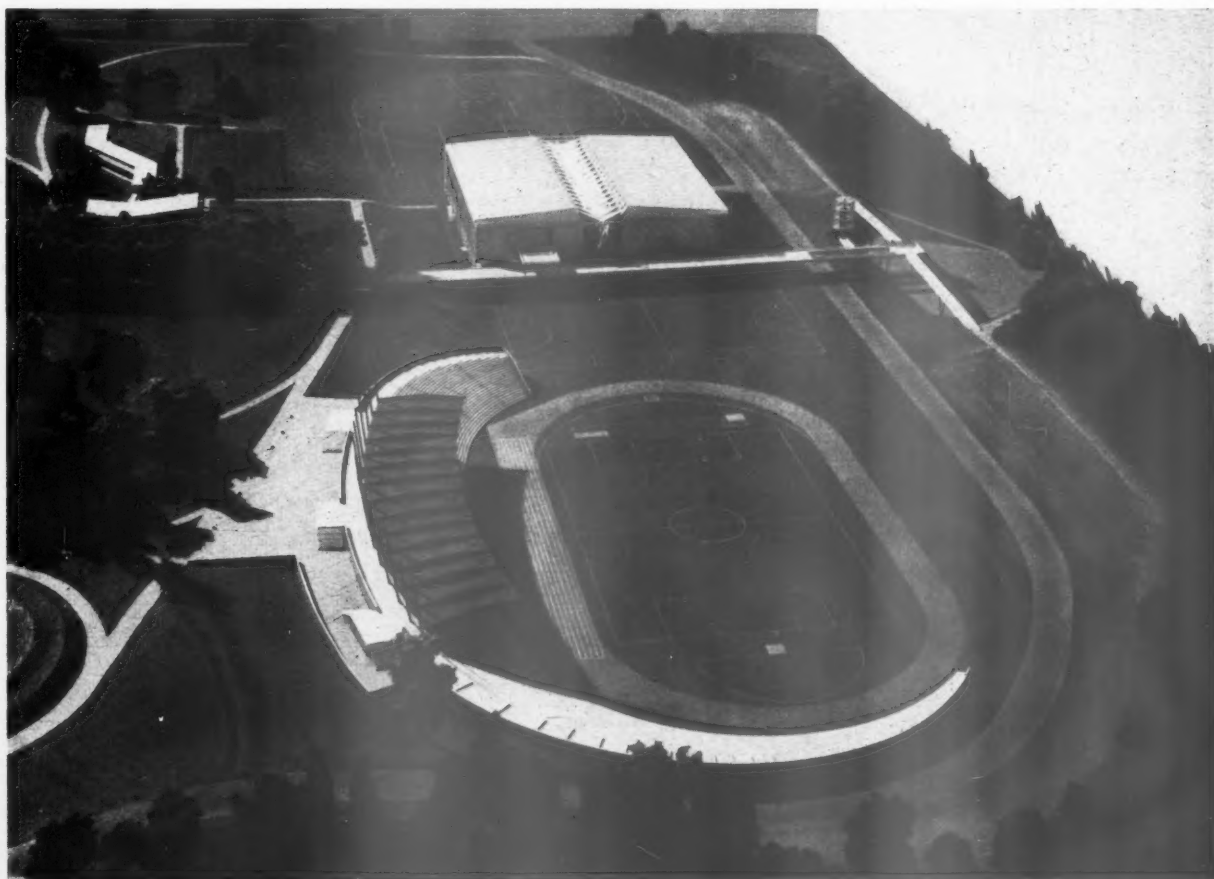
at the CRYSTAL PALACE, LONDON, S.E.19

designed by DR. J. L. MARTIN, architect to the LCC

assistants, N. W. ENGLEBACK, B. G. JONES and M. J. ATTENBOROUGH

The proposed national youth and sports centre on the Crystal Palace site is planned to the east of the area occupied by the Palace before it was burned down in 1936. The layout of the scheme and the design of the buildings has been carried out by the Architect's Department of the LCC in collaboration with the Central Council of Physical Recreation and the chief consultant is Sir Gerald Barry. The centre is estimated to cost £1,797,000.

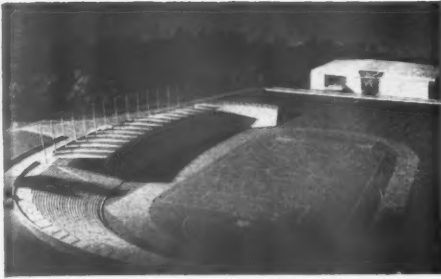
Model of the proposed scheme from the south.



SITE.—The south of the east-west level of the will be covered. This bridge is on the side of the motor race park. Under the sports arena, rugby football, the arena stand for north and south slope of the

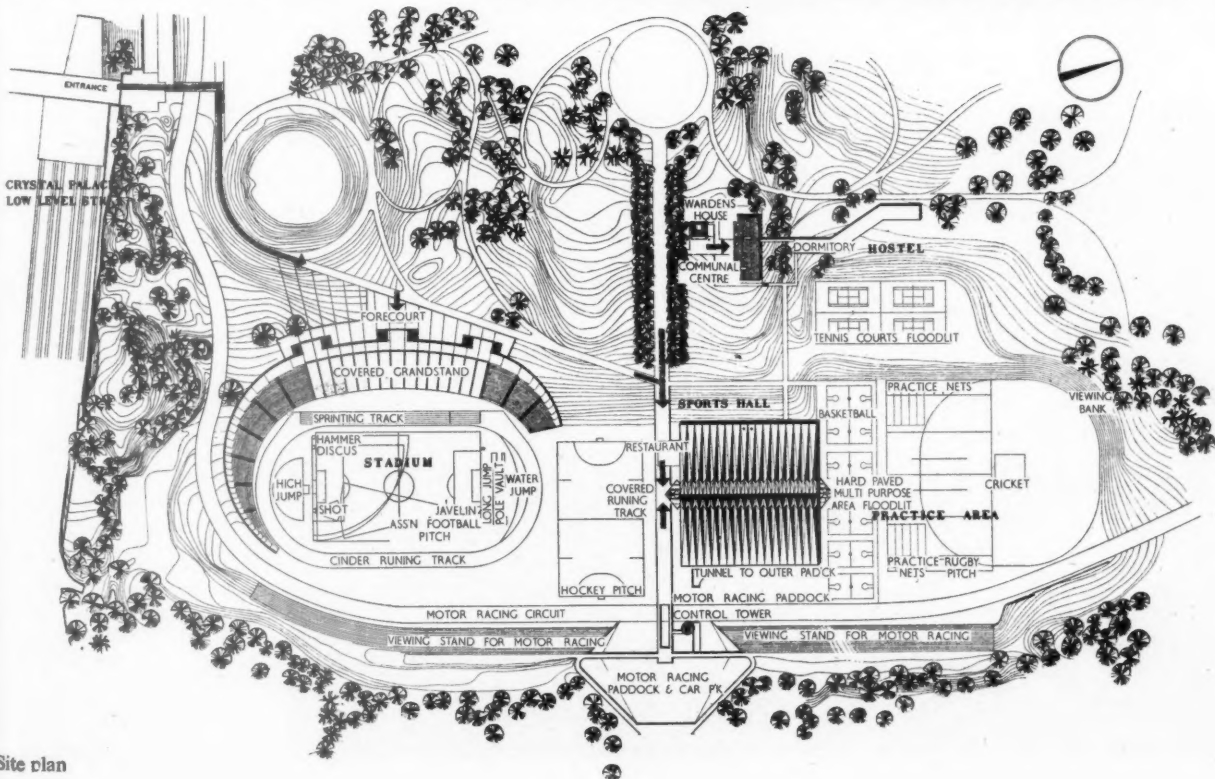
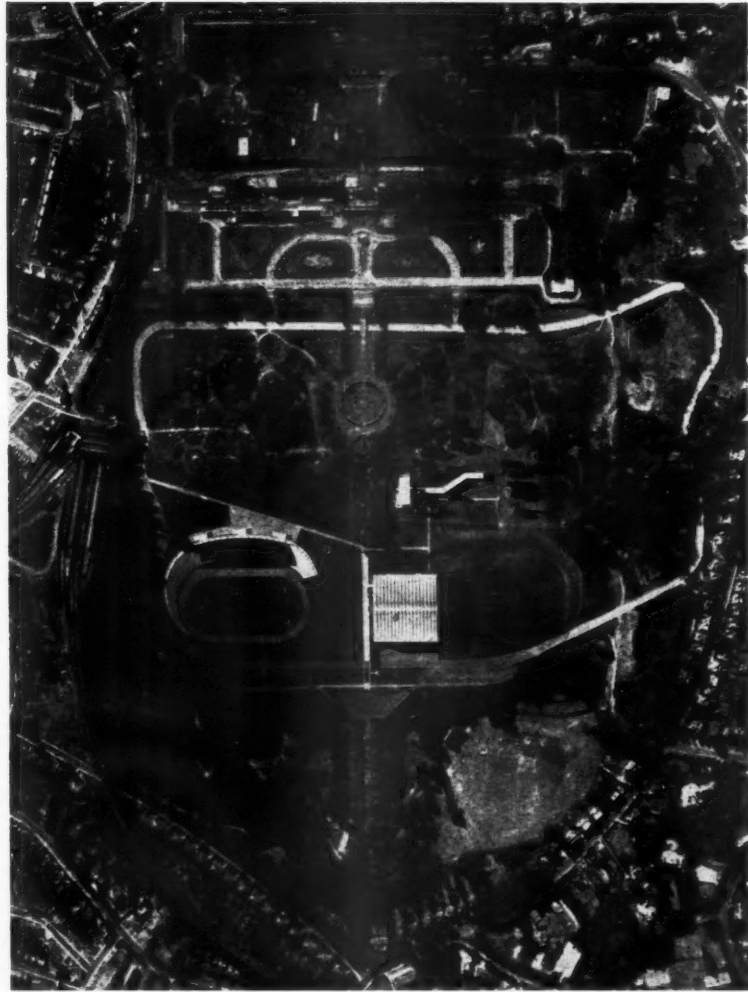
CRYSTAL PALACE
LOW LEVEL

Site plan

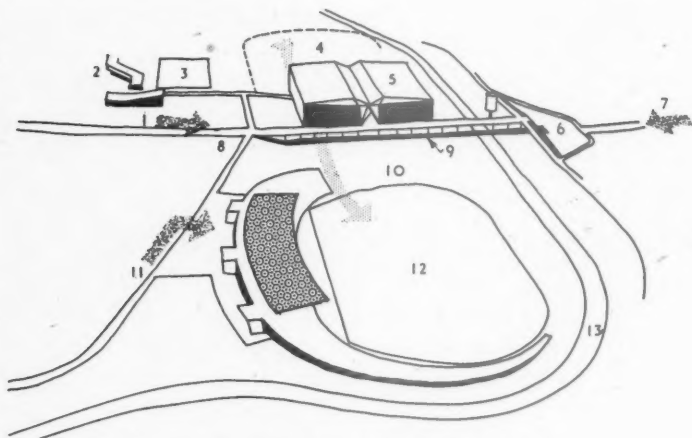


Above, the stadium from the south, with the sports hall in the background. The stadium is designed to seat 12,000 people, with standing room for a further 3,000. Right, an aerial photograph of the whole Crystal Palace site, on which is superimposed the layout of the sports centre

SITE.—The avenue of trees which lies to the south of the proposed hostel and on the main east-west axis of the site is about 20 ft. above the level of the sports arena and the line of the avenue will be continued eastwards in the form of a bridge. This bridge provides the main access on the south side of the sports hall and is continued over the motor racing track to the racing paddock and car park. Under part of the bridge is a running track. The sports hall is placed between the two outdoor sports areas. To the north will be the cricket, rugby football and netball pitches and to the south the arena for field events and the hockey pitch. The stand for the main arena is planned around the north and west sides, where it can be cut into the slope of the ground to save heavy constructional work.



Site plan



KEY

1. Central avenue
2. Hostel
3. Tennis courts
4. Practice area
5. Sports hall

6. Motor paddock
7. Entrance from Penge
8. Public circulation at upper level
9. Covered running track

10. Athletes' circulation
11. Entrance from low level station
12. Stadium
13. Motor racing track

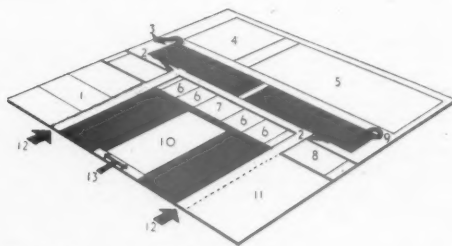
The diagram above shows the site from the south; the diagrams below show the Sports Hall from the south-west.

SPORTS CENTRE

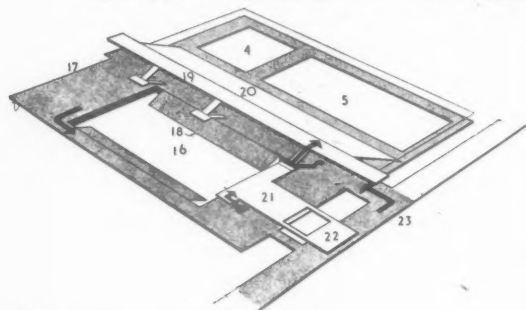
at the CRYSTAL PALACE, LONDON, S.E.19

designed by DR. J. L. MARTIN

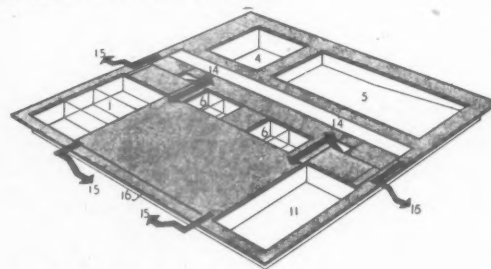
architect to the LCC



Circulation at level 217

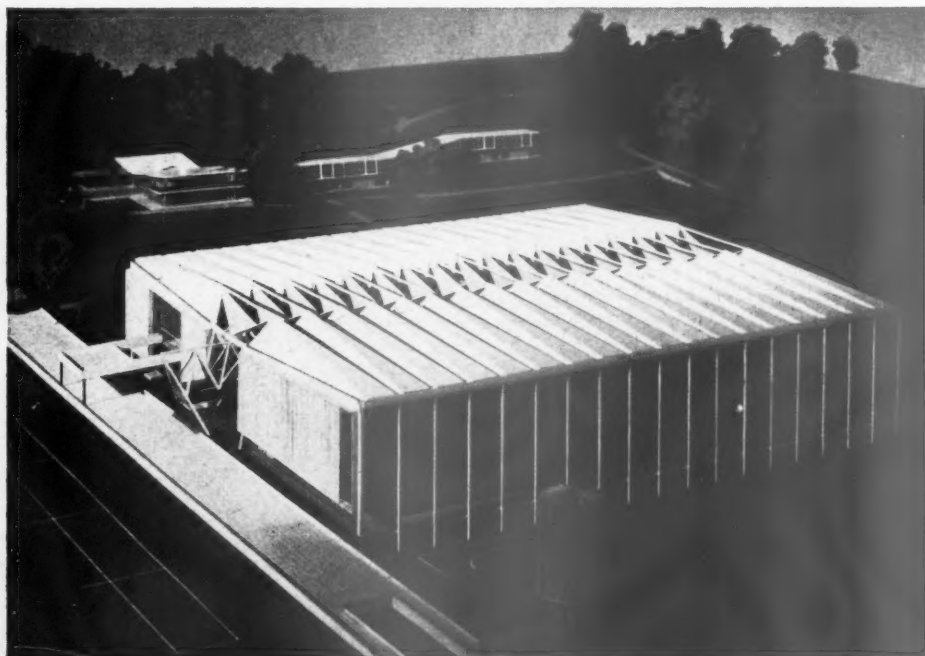


Sports Hall: circulation at level 237



Circulation at level 227

Below, the south and east facade of the sports hall. In the foreground is the access bridge.



CIRCULATION KEY

Level 217

1. Practice rooms
2. Athletes up to gym
3. Male swimmers up to pool
4. Diving pool
5. Racing pool
6. Squash court
7. Store
8. Clubroom
9. Female swimmers up to pool
10. Boiler and plant room
11. Cricket practice
12. Athletes entrance
13. Outside athletes

Level 227

14. Athletes up from changing rooms
15. Public exit
16. Gymnasium

Level 237

17. Tennis practice
18. Retractable seating
19. Upper circulation level
20. Public seating
21. Restaurant
22. Terrace
23. Public entrance



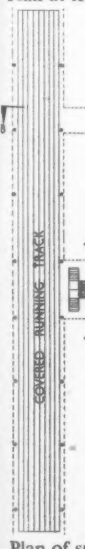
Section R



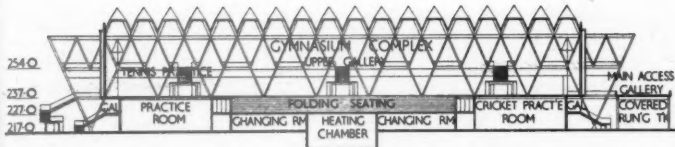
Plan at level 254.0



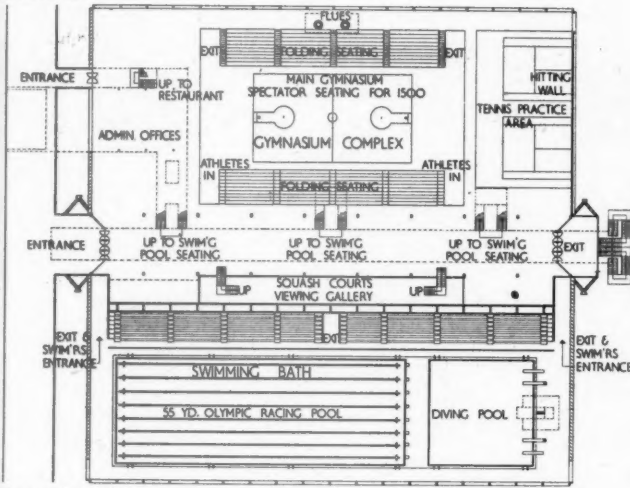
Plan at level 237.0



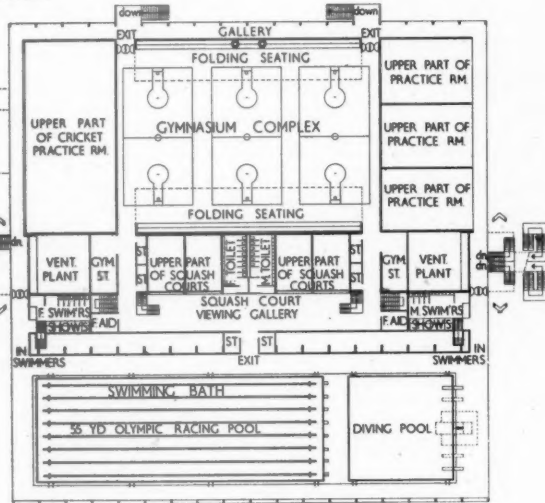
Plan at level 217.0



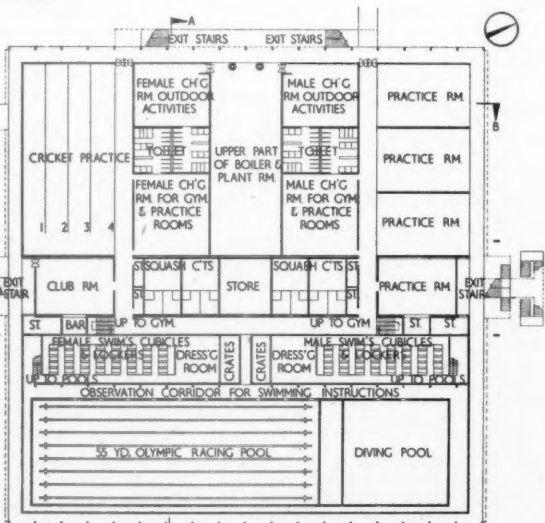
Section R-R



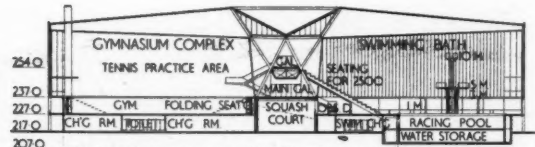
Plan at level 237



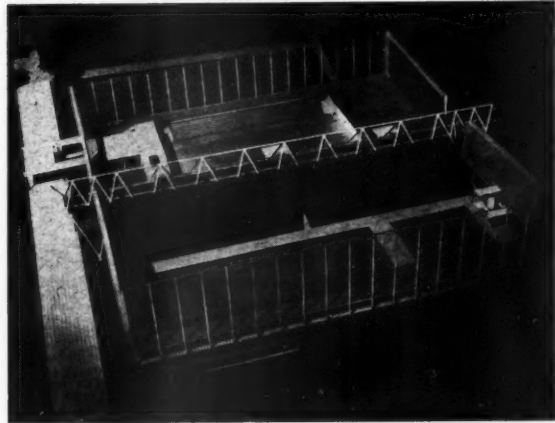
Plan at level 227



Plan of sports hall at level 217 [Scale: 1/4" = 1' 0"]



Section A-A



Top, the model of the sports hall, showing interior layout. On the nearside of the building are the swimming pools and on the far side the gymnasium. The main access is from the bridge on the left. Above, the underside of the roof.

measures 60 ft. by 60 ft. by 16 ft. deep and will contain two springboards and three fixed platforms, the highest at 10 metres. The gymnasium will be 150 ft. by 100 ft., divisible into three gymnasia, each 100 ft. by 50 ft. The tennis practice area is 88 ft. by 55 ft. and the cricket practice room (4 pitches) is 110 ft. by 52 ft. The covered running track is designed to be 350 ft. by 32 ft. and the restaurant area 80 ft. by 36 ft.

CONSTRUCTION.—The basis of the construction of the sports hall is a flat shelf (level 237), below which are "sunk" the gymnasium and swimming pool, with public access at different levels across the centre of this shelf. This shelf is carried on r.c. cross walls and external walls; the latter are brick faced externally. Above shelf level the outside walls are glazed throughout except for a solid panel



wall to the tennis practice area. The main supporting structure to the roof will be along the line of public access in the form of a triangulated spine construction in steelwork, which will give the required stability and also support the main access ways through the building. These frames will be prestressed with tension ties, which connect their

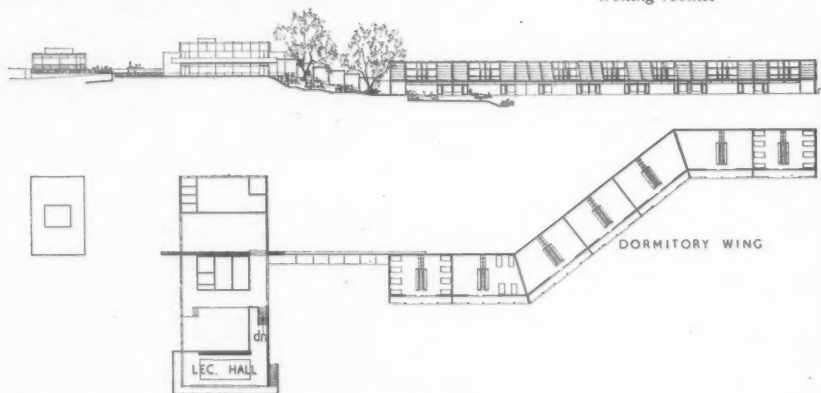
apices across the line of the supporting spine structure. The outer edges of the roof will be given the required support by the mullions of the external glazing. The load that is to be carried by these mullions will be light and will be controlled by the tension ties between the two roof sections, which will be prefabricated in units.

Above, a view of the model from the north with the communal centre and hostel on the right and the sports hall on the left. In the hostel there will be 12 single bedrooms and 14 dormitories, each for 6 persons. B:drooms contain lavatory basins and the sanitary accommodation includes 21 wc's and baths, showers and drying and ironing rooms.

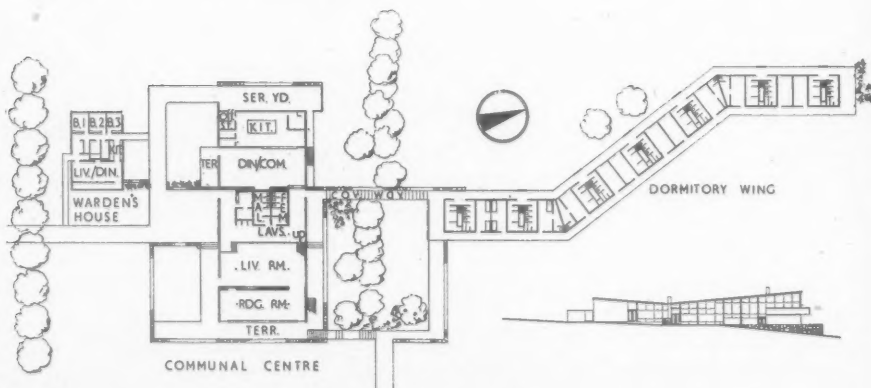
SPORTS CENTRE

at the CRYSTAL PALACE,
LONDON, S.E.19

designed by DR. J. L. MARTIN
architect to the LCC



First floor plan and east elevation [Scale: $\frac{1}{4}$ " = 1' 0"]



Ground floor plan and south elevation of communal hall

GARAGE

in WESTERN AVENUE, GREENFORD, MIDDLESEX

designed by WALLIS, GILBERT and PARTNERS

architect-in-charge JOHN WARE

quantity surveyors, STANLEY GRIFFITH and PARTNERS

The new premises for Perivale Motors Ltd., on the south side of Western Avenue, take the place of a corrugated iron structure, now demolished, which had inadequate head room, poor daylight standards, obstructions in the working area and poor thermal insulation. The purchase of adjacent land to the west of the original site made it possible to increase the floor area and frontage and have a wider forecourt. Headroom of 15-ft. was required for maintaining large commercial vehicles in addition to the normal private car trade. Due to the proposed widening of Western Avenue, the line of the building has been set back from the present curb line, to allow the necessary depth of forecourt.

The garage and showroom from the north-east.





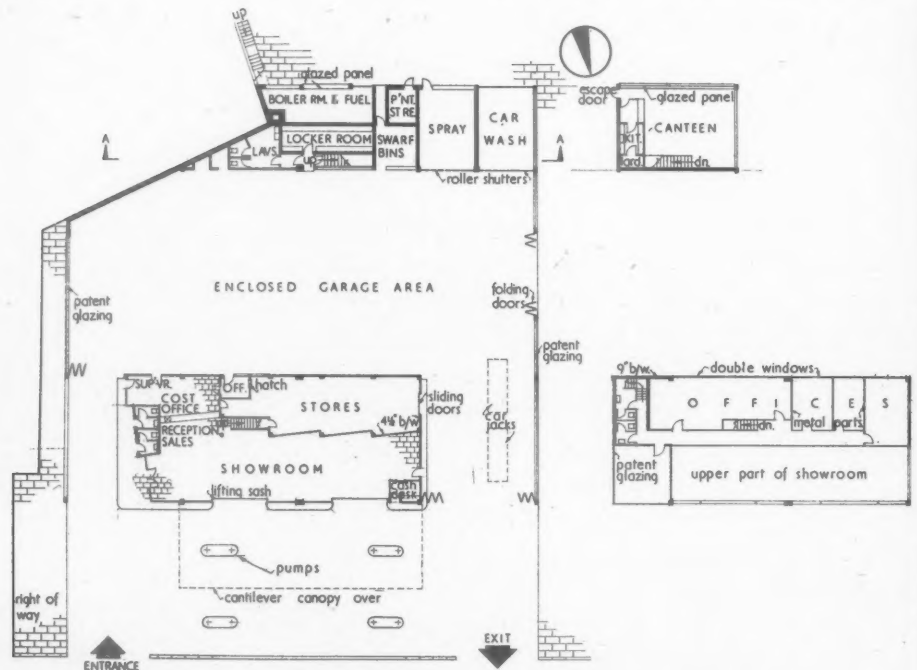
Above, the west facade. In the foreground the parking area for cars waiting repairs or collection.



Section A-A

PLAN.—The wide forecourt allows for four lines of vehicles obtaining petrol, oil, air and water, which are all available on four islands. Between the showroom on the north side and the workshop area at the rear, is a stores area. To the east of these

GARAGE
at GREENFORD, MIDDLESEX
designed by WALLIS, GILBERT
and PARTNERS



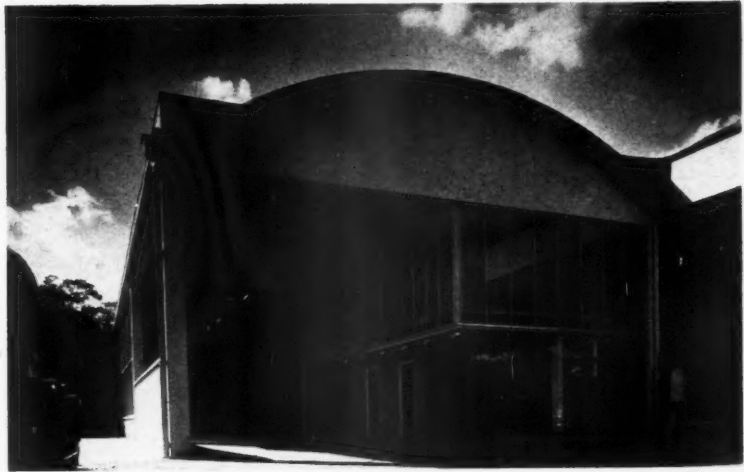
Ground and first floor plans [Scale: $\frac{1}{4}$ " = 1' 0"]

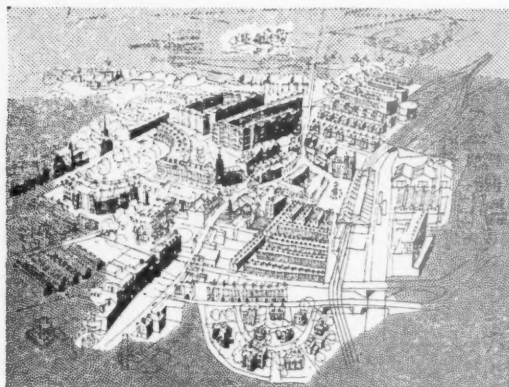
stores is a supervisor's room which is a check point for vehicles coming in for repairs, lubrication and washing, has a good view of the showroom, forecourt and workshop and also has direct access to the store and offices for foreman and costing clerks.

CONSTRUCTION.—The workshop consists of a clear floor area of 136 ft. by 60 ft. and the 3-in. thick reinforced-concrete barrel vault roof, in four bays, covers the entire building, with the exception of a triangular single-storey block at the south-east corner. At the north-east corner of the showroom, above the main entrance, is a boardroom which is hung from the main r.c. stiffener beam.

FINISHES.—Daylighting is partly obtained through openings in the barrel vaults, which each contain two sheets of flat glass, divided by an aluminium patent glazing bar between them. The architects selected the colours used for their light reflecting qualities in relation to the different types of cold cathode lighting in different areas. In the showroom the colours were chosen to form a background to light-coloured cars, now replacing the one-time universal black for bodywork. The cost per ft. cube was 2s. 11d. General contractors, Whyatt Builders Ltd. Sub-contractors, page 694

Below and right, the showroom at the north side of the garage. Above right, the north-east corner of the garage and main entrance to workshop.





Earlier in the year the JOURNAL's Guest Editor for 1954, Felix Walter, wrote several articles on the conversion of large dwellings into units of accommodation. Since then he has been making a study of all aspects of the question of conversions, and the results of his investigation are being published in a series of articles which began last week with "Housing Improvements." This week he writes about conversions or improvements in buildings of special architectural or historic interest. This article, which will be continued next week, will be followed later by the one, which we promised for this week, on problems of ownership and management.

CONVERSIONS AND IMPROVEMENTS IN

HISTORIC BUILDINGS

To safeguard the country's wealth of fine buildings from demolition or from alterations which might destroy their intrinsic value, protective legislation exists under the Ancient Acts of 1913, 1931 and 1953 and the Town and Country Planning Act, 1947.

The responsibility for exercising these powers lies with the Ministries of (a) Works and (b) Housing and Local Government. There is no clear cut line of demarcation between them, but, in general terms, the MOW is principally concerned with ancient monuments and ruins—and certain houses which are uninhabited and likely to remain so, whilst the MOHLG deals with habitable and occupied buildings. The departments of both Ministries are in touch with one another to avoid complications which might arise otherwise from a joint responsibility.

The activities of property owners who are considering conversion or partial demolition, or even merely alterations, would therefore be the concern of the MOHLG, assuming of course, that the building in question is of special architectural or historic interest and has been, or is likely to be, "listed" before the work is under way. The following notes are intended only for general guidance and to show how this legislation works: anyone who is in doubt over some particular problem should consult his own adviser or have a word with the local planning officer.

Section 30 (1) of the Town and Country Planning Act, 1947, calls upon the Minister to compile lists of buildings of special architectural or historic interest—and these lists are intended to assist local planning authorities in the "performance of their functions." Compiling these records in the field are a number of investigators, all qualified in one way or another, and they receive instructions on standards to be adopted from what is known as the Minister's Advisory Committee on Historic Buildings.

To examine every building in the country from the smallest and most remote cottage to the largest mansion is an immense undertaking and even when this stage is complete and those buildings which qualify for listing have been recorded, the task is by no means accomplished. The unit of investigation generally is the rural district—every building in that area is checked and the schedule of selected buildings (the listed buildings) is sent to the local authority who add the names and addresses of owners and occupiers against each. This may appear extremely simple but

experience has proved the reverse—owners are difficult to trace at times and reliable or permanent addresses not easy to secure.

When the schedules are finished, they are returned to the Ministry whose responsibility then it is to notify each owner and occupier that the building is, or is no longer, listed—and an explanatory note enclosed describes the procedure to be followed should either owner or occupier wish to alter, convert or demolish the listed building. This protracted exercise is inclined to misfire at times—a notice that a particular building has been "listed" can be received (and has been) some time after the building has been demolished—but we all enjoy a joke at the Government's expense and most will admit that some delays really are unavoidable.

Copies of the lists relating to any county borough or district are deposited with the clerk of that council or district, or the clerk of the local planning authority where the council does not happen to be also the planning authority as well. These copies are entered then in the Register of Local Land Charges. The Schedules are of immense value to the planning authority, for the buildings are not only protected against any immediate violation, but there is more likelihood that they may be preserved by incorporation in the authority's redevelopment programme.

Once the owner or occupier has been notified that his building is "listed," he is obliged to give two months' notice of any intended alteration or demolition scheme to the local planning authority even where the work does not normally need planning permission. Although listing in itself only provides the authority with notice of the owner's intentions, it does allow time and opportunity to seek the Ministry's advice and guidance—and only in urgently necessary cases where safety or health are in jeopardy may this two months' notice be waived. Apart from the following categories, no buildings are excluded from this control once they have been listed. (a) Ecclesiastical buildings; (b) Crown property; and (c) Scheduled Ancient Monuments.

Where the authority requires more positive control, they may apply a building preservation order so long as this is confirmed by the Minister. Such an order may last indefinitely unless the Minister decides otherwise. But the owner in such circumstances may claim that the building in its restricted condition is of little use to him and he can serve a purchase notice on the local authority.

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Fairlawne, Kent, whose conversion by Sir Hugh Casson is described overleaf

This forces the issue to the extent that the Minister must give the owner permission to alter or demolish, or alternatively, confirm the preservation order. Where the latter applies, the local authority has to meet the purchase price.

Such a case is comparatively rare for a number of reasons. Financial provisions are quite inadequate to preserve all old houses and, unless the property can be put to some beneficial use, the Minister is unlikely to confirm the purchase. And in any case, the

local authority is under no obligation to maintain the property. Although anyone may apply for grant aid to maintain buildings, whether or not their buildings are listed, the Treasury's present very limited assistance (this year it is £250,000) can only be spread over the comparatively few most deserving cases. But those wishing to submit an application should communicate with the Historic Buildings Council, set up under the Historic Buildings Act, 1953, which recommends to the Minister of Works those applications of outstanding historic or architectural interest.

The real value of this legislation lies in (a) the restraint upon owners whose intentions may be that of destroying works of national or local interest and (b) the assistance given to local authority in recognizing at least some otherwise undiscovered buildings of architectural or historic interest.

Since the MOW's interest is solely restricted to monuments and ruins rather than inhabited houses this is really beyond the range of the present subject—but border-line cases which might be the

responsibility of either Ministry may arise and it would be as well perhaps to touch on one or two additional matters which are more the concern of the MOW.

Professional Advice

The Ministry may give advice regarding ancient monuments and it may superintend also the carrying out of work—but no charges may be made apart from the reimbursement of out-of-pocket expenses. With the available small staff these facilities are naturally restricted and any work to justify attention would have to be of some importance.

Acquisition and Care of Buildings

This same lack of financial support affects also Deeds of Gift and Guardianship and until the Treasury increases its support substantially it would seem unlikely that the Ministry could accept further responsibilities of any magnitude.



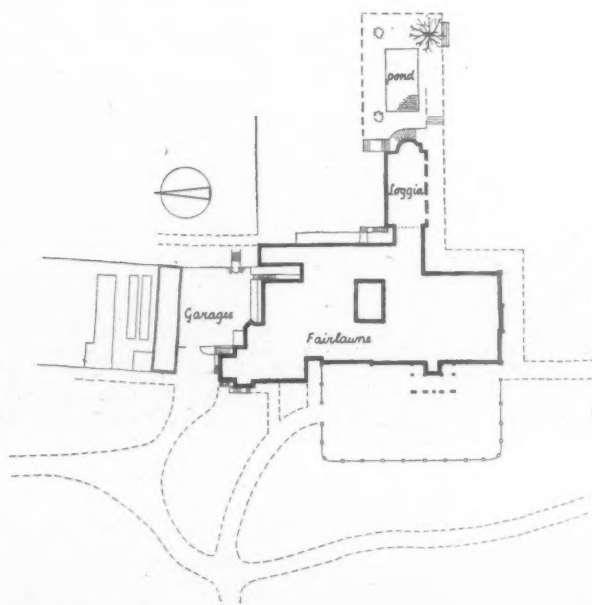
Left, Fairlawne before conversion. Right, after the Victorian wing had been demolished

Fairlawne, Kent

Architect: Sir Hugh Casson

THE SCHEME: Considerable additions which had been made to Fairlawne were out of scale with present needs. So the cumbersome Victorian wing was demolished and the Georgian house, a listed building, was left more closely resembling its original form and appearance. The dismantled wing ensured more economic maintenance, but to rehouse the displaced domestic staff and to improve the guest accommodation and nursery, some structural alterations were necessary.

PLANNING DETAIL: To meet these shortages, new separate and self-contained flats were provided within the main house for the chauffeur (page 683) and for the butler (page 685). Bed-sitting

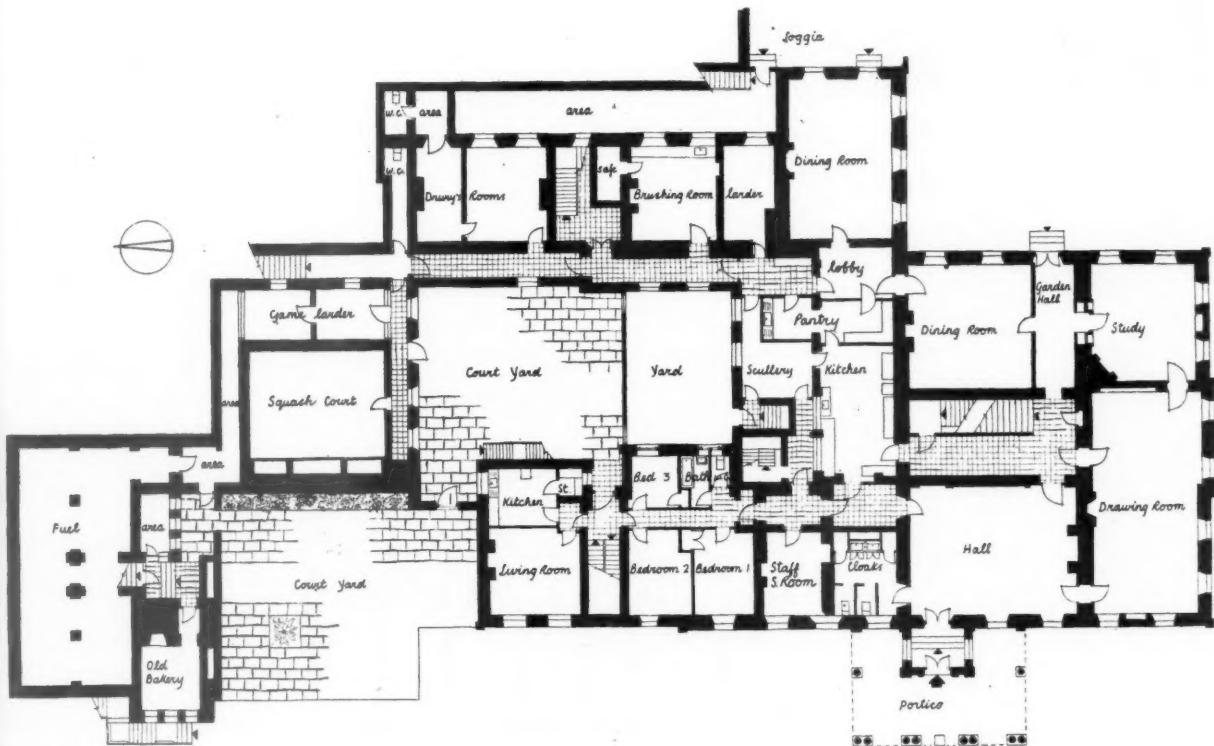


Site plan

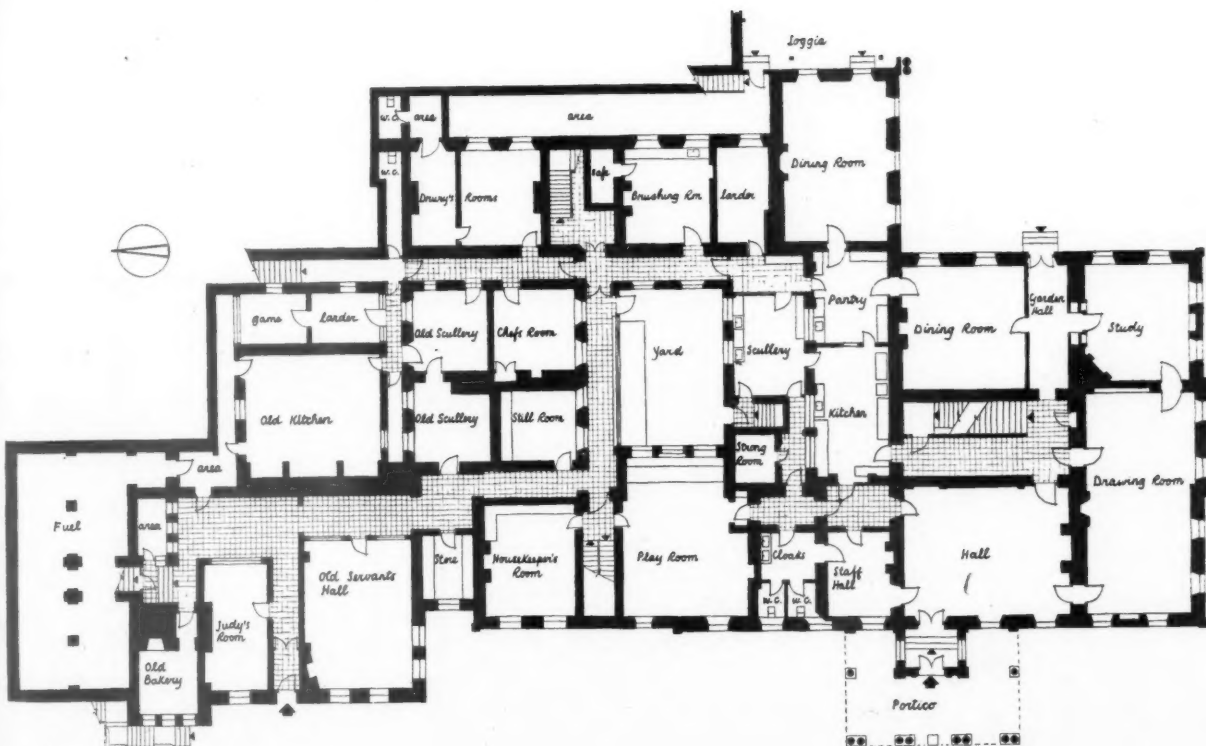
rooms were arranged for the chef, footman, housemaids and under-housemaids, and a new staff staircase was provided between ground and first floor. The kitchen, scullery and pantry were replanned to give better circulation for the chef

from kitchen to larder and for the butler to his pantry.

Two top-lit and ventilated bathrooms have been formed in the space previously occupied by the guests' bathroom. The cloakroom and staff hall



Ground floor after



Ground floor before [Scale: $\frac{1}{8}'' = 1' 0''$]

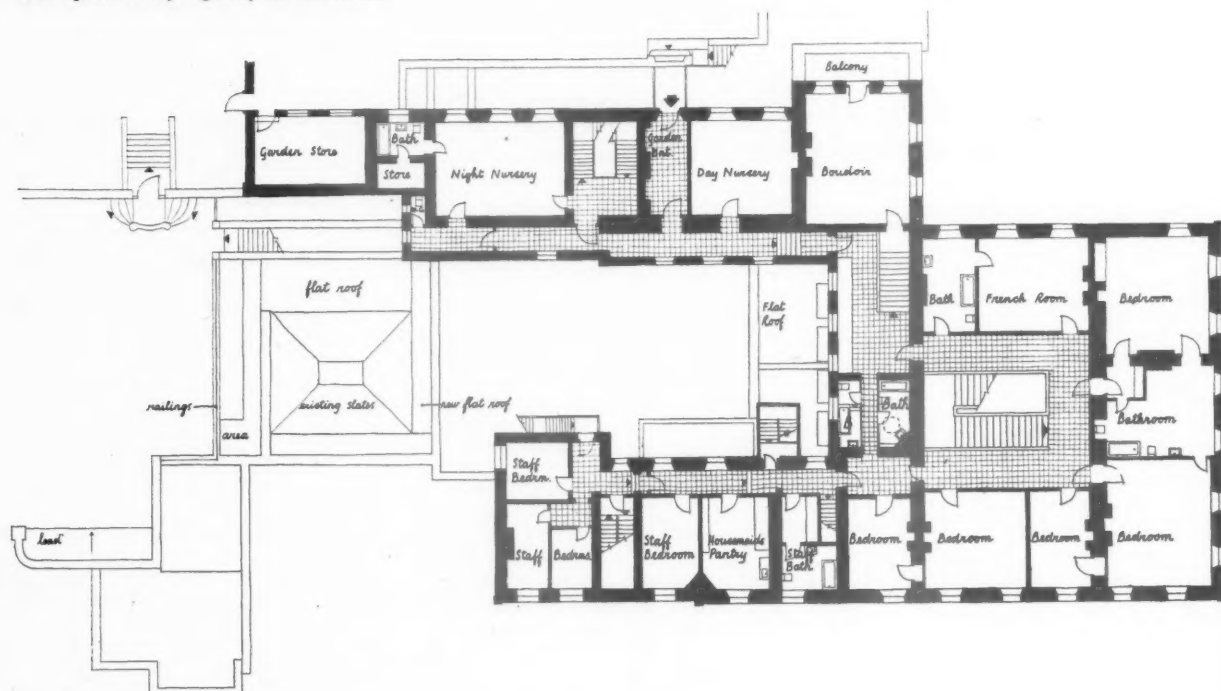


The squash court, originally the old kitchen

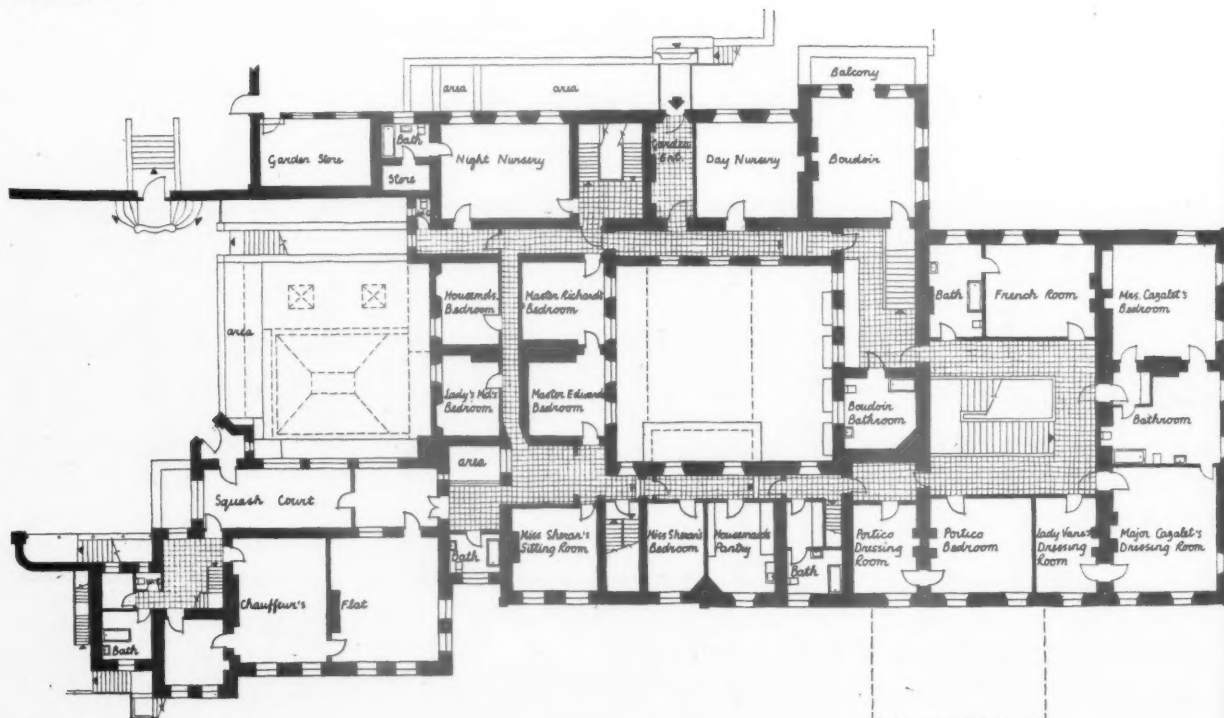
were reversed so that the former is now off the hall and there is direct access from the latter to the kitchen. The old kitchen has been stripped and converted into a squash court with a spectators' viewing platform. In the nursery wing at the rear all the second floor bricked-up window panels have been opened up and the old lintols, which were infected with death watch beetle, have been replaced.

Internal wall surfaces exposed by the demolition

have been battened and hung with second-hand tiles, whilst in other places walls have been faced with stone. In the newly-formed courts, second-hand York stone paving has been laid. Considerable quantities of lead were salvaged from the demolition and for this there is always a ready market. Windows, doors, architraves, wood block flooring, etc., from the dismantled sections have been re-used wherever possible in the alterations, whilst rubble and hardcore, suitable for making



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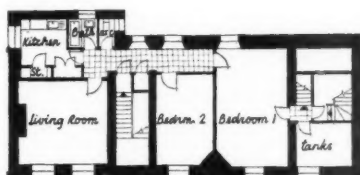
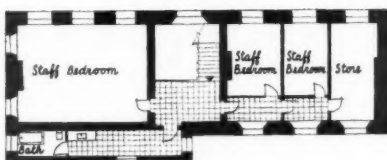
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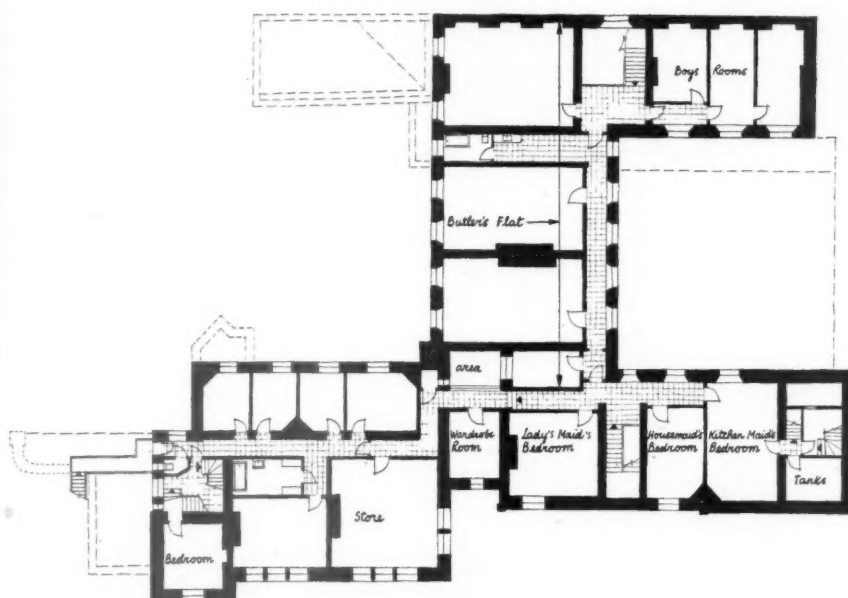
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up roads and standings, have been used in the owner's estate.

COST: Extra care had to be taken by the contractors during demolition so that the normal running of the house was not disturbed, and the reconstruction was carried through on the basis of a fixed fee form of prime cost contract. No figures are available for this work.



Second floor after



Second floor before



Top, the Victorian wing from the North, before demolition. Above, a view taken in the internal court, looking from the south-east at the chauffeur's flat

Steventon Priory, Oxford

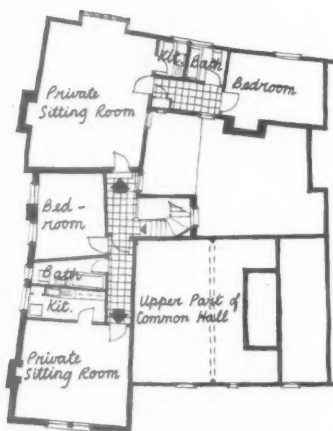
Architect: J. E. M. MacGregor

THE SCHEME: The restoration of a building such as Steventon Priory calls for an architect with special knowledge of this subject. Not only must he acquaint himself with the historic background of the job and be able to distinguish the original from imitations, but he must be capable of analysing the layout from which he will discover the various stages and periods when alterations





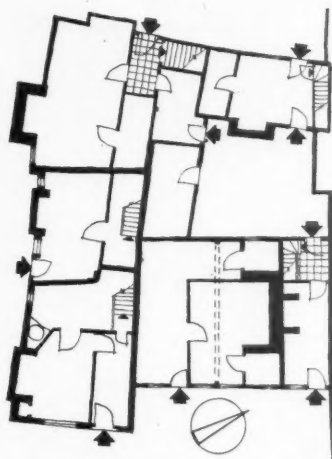
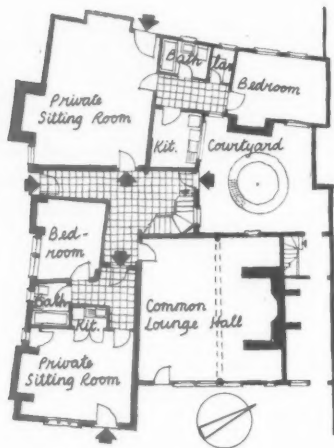
First floor before



First floor (scheme A)



First floor after (scheme B)

Ground floor before [Scale: $\frac{1}{4}'' = 1' 0''$]

Ground floor (scheme A)



Ground floor after (scheme B)

may have taken place. In this search, he may discover features of great interest, lost or blocked up many years ago by less discriminating owners. Furthermore, the architect must appreciate the technique and materials used by the craftsmen of earlier times, as well as the behaviour and movement of these old structures. In an attempt to assist architects in this complex study, the Society for the Protection of Ancient Buildings has reintroduced its annual course which consists of lectures, discussions and visits to buildings of interest.

Once used as a Priory in connection with that in Abingdon, Steventon is a fine timber-framed building and the earliest portion, which includes the Hall, with its unique hammer-beam roof, is 14th century. For many years the house has been divided into five small cottages; when the Priory was bought before the war and presented to the National Trust, the fabric was in an advanced state of decay. It was the intention to provide four self-contained flats and a common hall for the donors (see Scheme A) but vacant possession could not be obtained at the time and the successive wartime evacuees who occupied the



Top left, the Priory, before conversion, from the east. Centre left, before conversion, from the west. Bottom left, after conversion, from the south. Right, the north extension of the Priory, which is privately owned, but restored to conform to the rest of the building

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cottages only hastened the disfigurement of this historic building.

PLANNING DETAIL : After the last war, the Trust decided to recondition the building and to convert it into two houses (see Scheme B). In this process the Hall, which had been floored across in the 16th century (see plans before

conversion) was returned to its original form, the first floor removed, the hammer-beam roof once again exposed to the ground floor and the original unglazed windows re-opened. The east side of the building, which had been rebuilt in brickwork in the late 17th century or early 18th century, had disintegrated to such a degree that it had to be completely reconstructed; thus it

was possible to incorporate in the new work a door and windows to suit the revised internal arrangement.

COST : The combined cost of conversion and reconditioning was £4,600, but the expenditure on general repairs accounted for the greater part of this sum.



Left, before conversion. Above, after conversion, which included the building of another storey on one building.

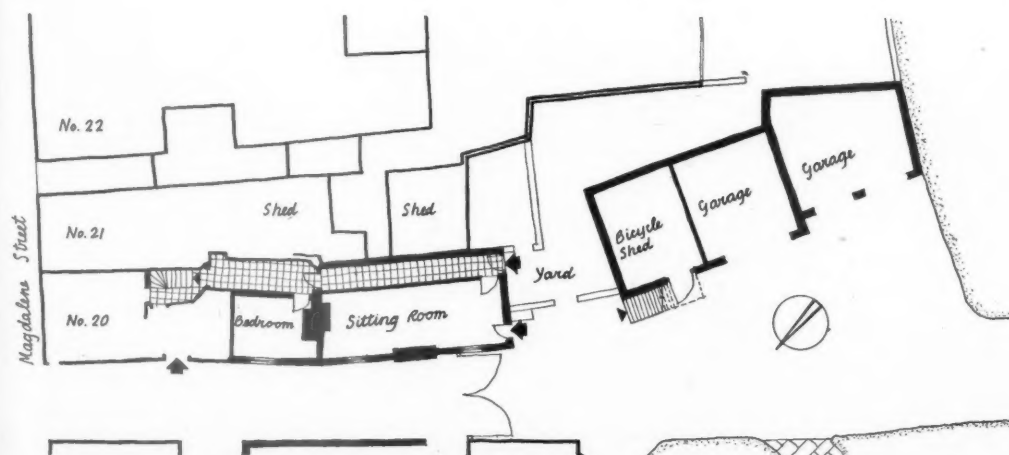
Mallory Court, Cambridge

Architect: D. Wyn Roberts

THE SCHEME : Mallory Court, which forms part of Magdalene College, Cambridge, contained buildings of varying condition and many uses. The rehabilitation scheme included No. 20, Magdalene Street at the north-east end and at the south-west extremity there were a series of garages, bicycle and other sheds from which ten undergraduate sets have been created.

PLANNING DETAIL : Each set consists of a living room and adjoining bedroom, each with its

own lavatory basin. W.C.s and baths are shared. In work of this nature where the standards of structure and finishes vary so widely, but where the final effects must be as one conception, detailed drawings and specifications are really inadequate in themselves. To make the most of alternatives as they emerge, almost daily supervision is necessary. But the benefit from this procedure can be gained only when there exists between architect and builder that mutual confidence upon which a cost plus contract basis



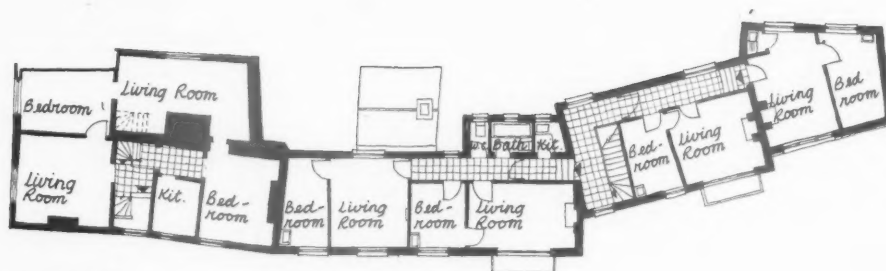
Ground floor before [Scale: $\frac{1}{8}$ " = 1' 0"]



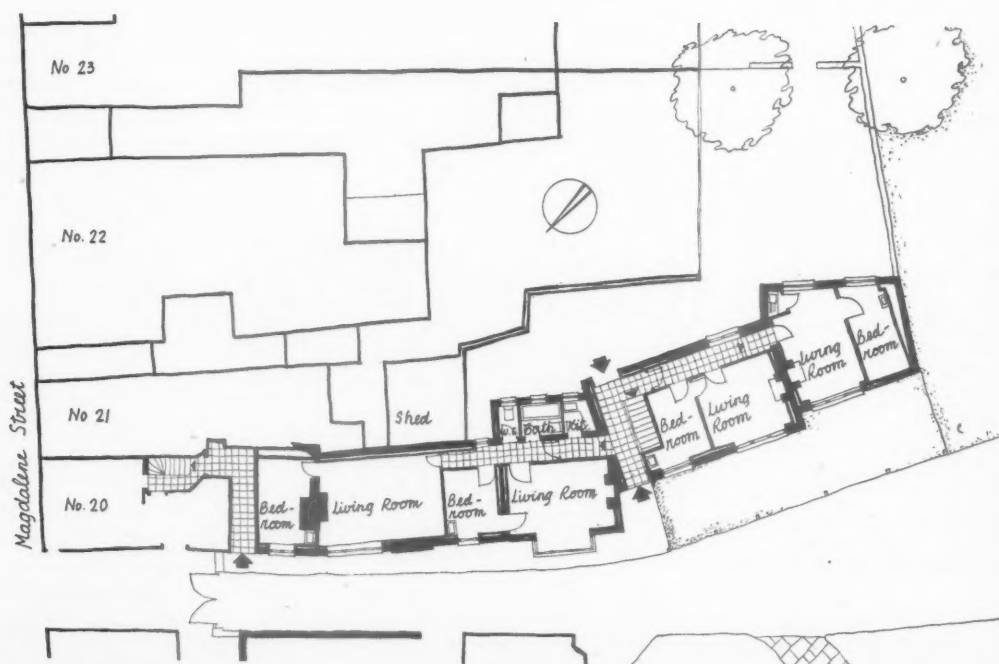
One of the living rooms

can function satisfactorily. This, however, should not suggest that the architect's work really commences when the site work is under way; on the contrary, the full value lies in a carefully designed scheme which can benefit from additional improvement without affecting detrimentally the final cost of the job.

COST : The scheme, including No. 20, Magdalene Street, cost £7,700, or £770 per set and was carried out on a cost plus form of contract.



First floor after



Ground floor after

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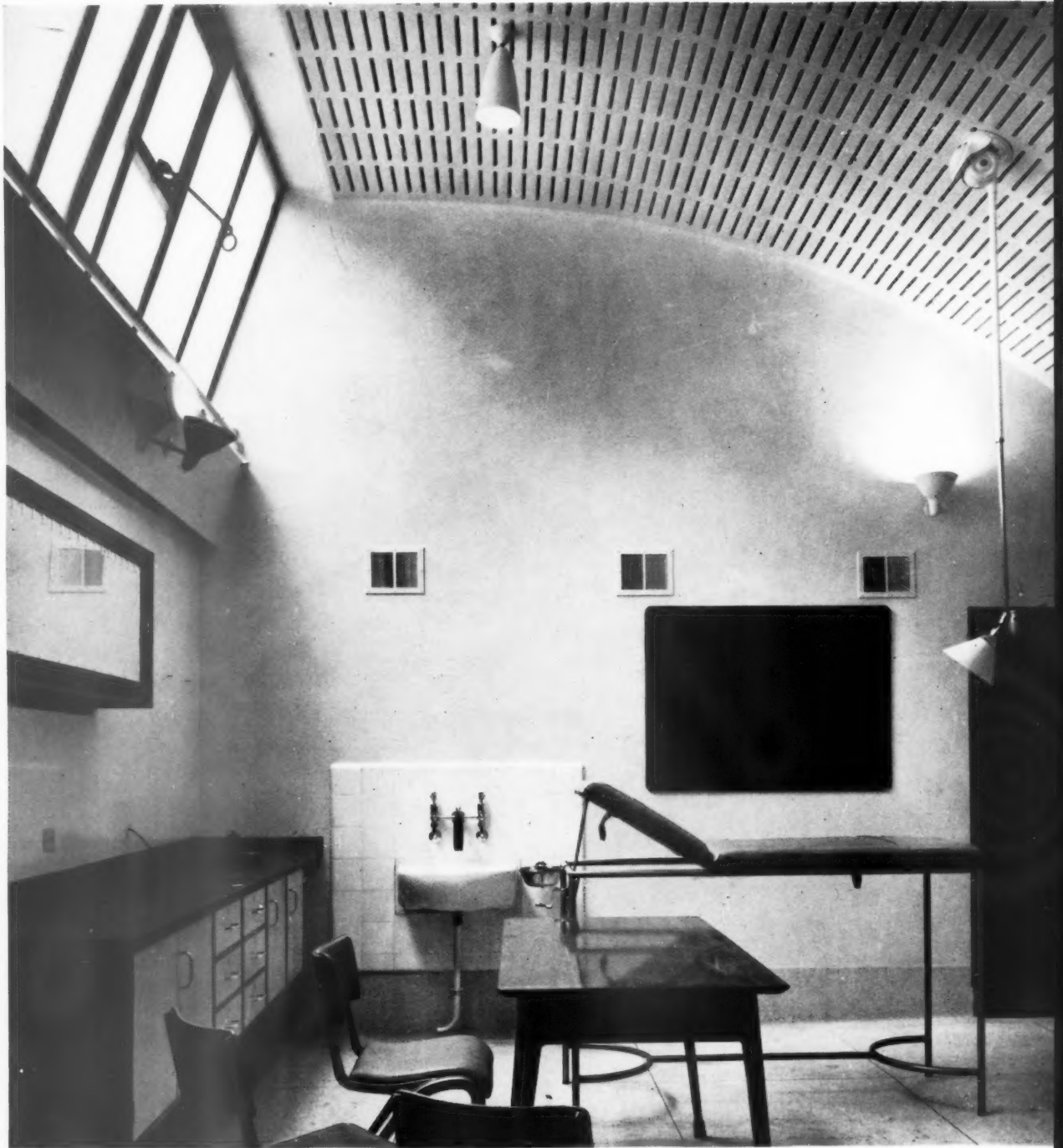
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WORKING DETAIL

ROOFS AND CEILINGS: 21

NORTHLIGHT ROOF: HOSPITAL IN LONDON, W.C.1

Easton and Robertson, architects ; J. G. Mouchel and Partners, consulting engineers



The shell concrete roof gives a clear span of 35 ft. Heating pipes have been run at the foot of the windows to prevent condensation. A fibrous tissue has been inserted in the plaster trays, which comprise the structural element in the acoustic ceiling, to guard against specks of glass fibre falling in the working space beneath.

WORKING DETAIL

NORTHLIGHT ROOF: HOSPITAL IN LONDON, W.C.1

Easton and Robertson, architects ; J. G. Mouchel and Partners, consulting engineers

ROOFS AND CEILINGS: 21

SECTION THRO' BARREL VAULT ROOF.
scale $\frac{1}{4}'' = 1'-0''$

SECTION THRO' NORTH LIGHT.

scale $1\frac{1}{2}'' = 1'-0''$

WORKING DETAIL

ROOFS AND CEILINGS: 20

ROOFLIGHT AND OBSERVATION WINDOW: SCHOOL AT WIGAN

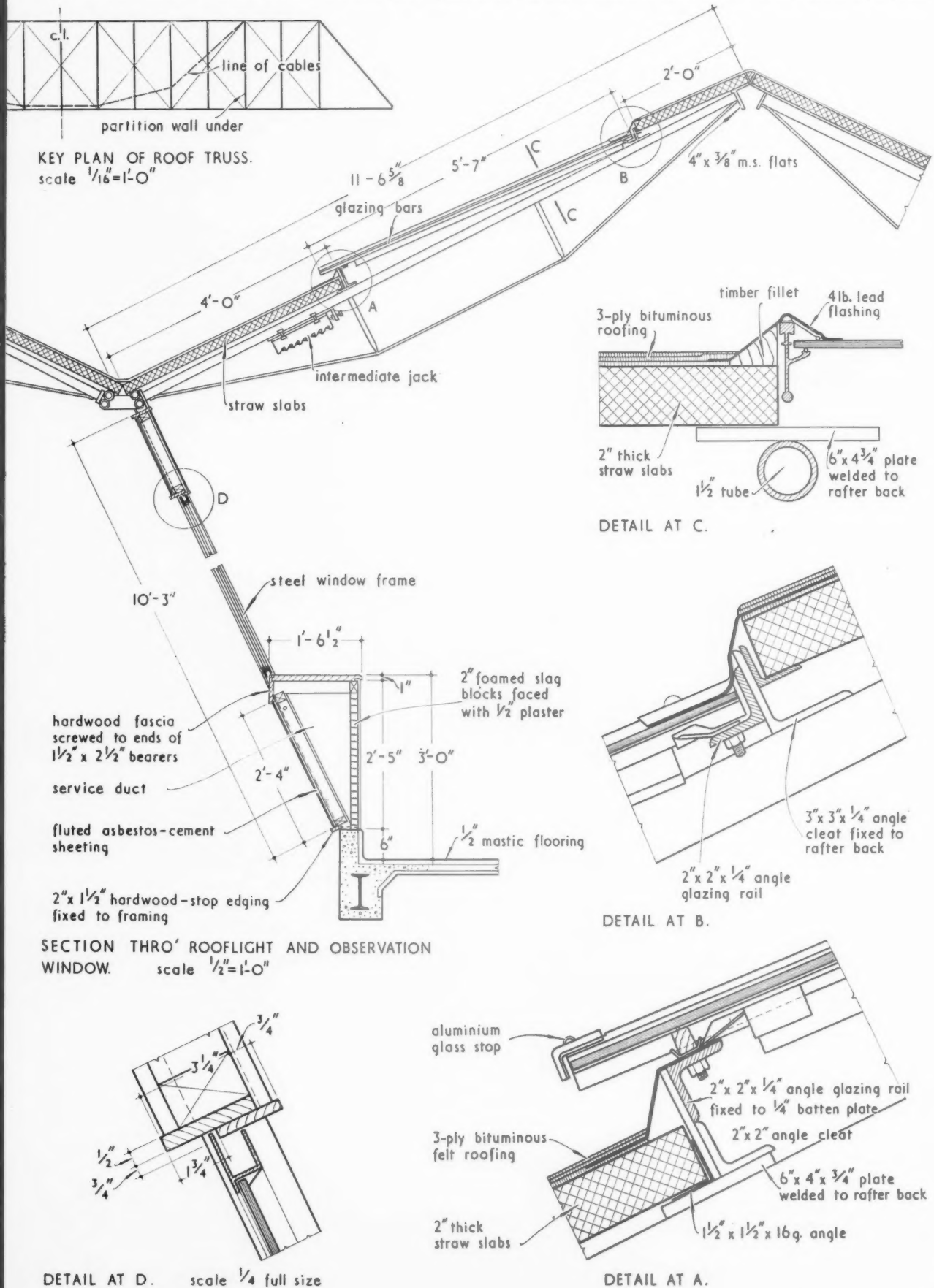
Howard V Lobb, architect, in collaboration with G. Grenfell Baines and Hargreaves, architects; F. J. Samuely, consulting engineer



The observation gallery is designed to allow visitors to the school to see the students at work without interrupting them. The members of the prefabricated roof were welded in the factory and were delivered to the site in large units, two for each main roof slope. The seven balloon wires were anchored after the truss was in position and were twice stressed: once before the roof covering was fixed and once after. The wires were stressed by screwing the intermediate jacks downwards along the roof slope.

WORKING DETAIL**ROOFS AND CEILINGS: 20****ROOFLIGHT AND OBSERVATION WINDOW: SCHOOL AT WIGAN**

Howard V Lobb, architect, in collaboration with G. Grenfell Baines and Hargreaves, architects; F. J. Samuely, consulting engineer





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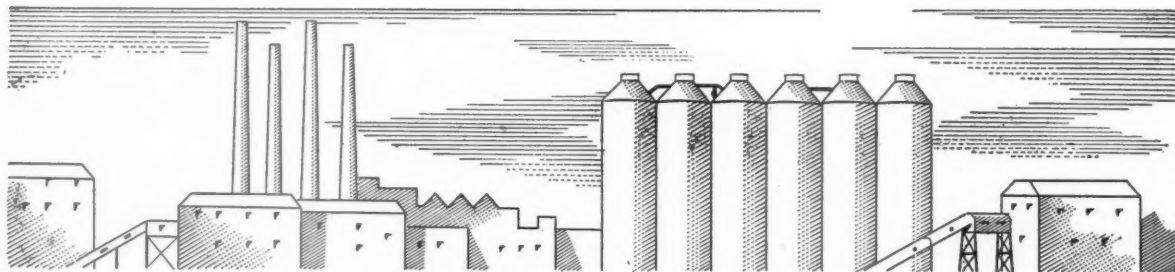
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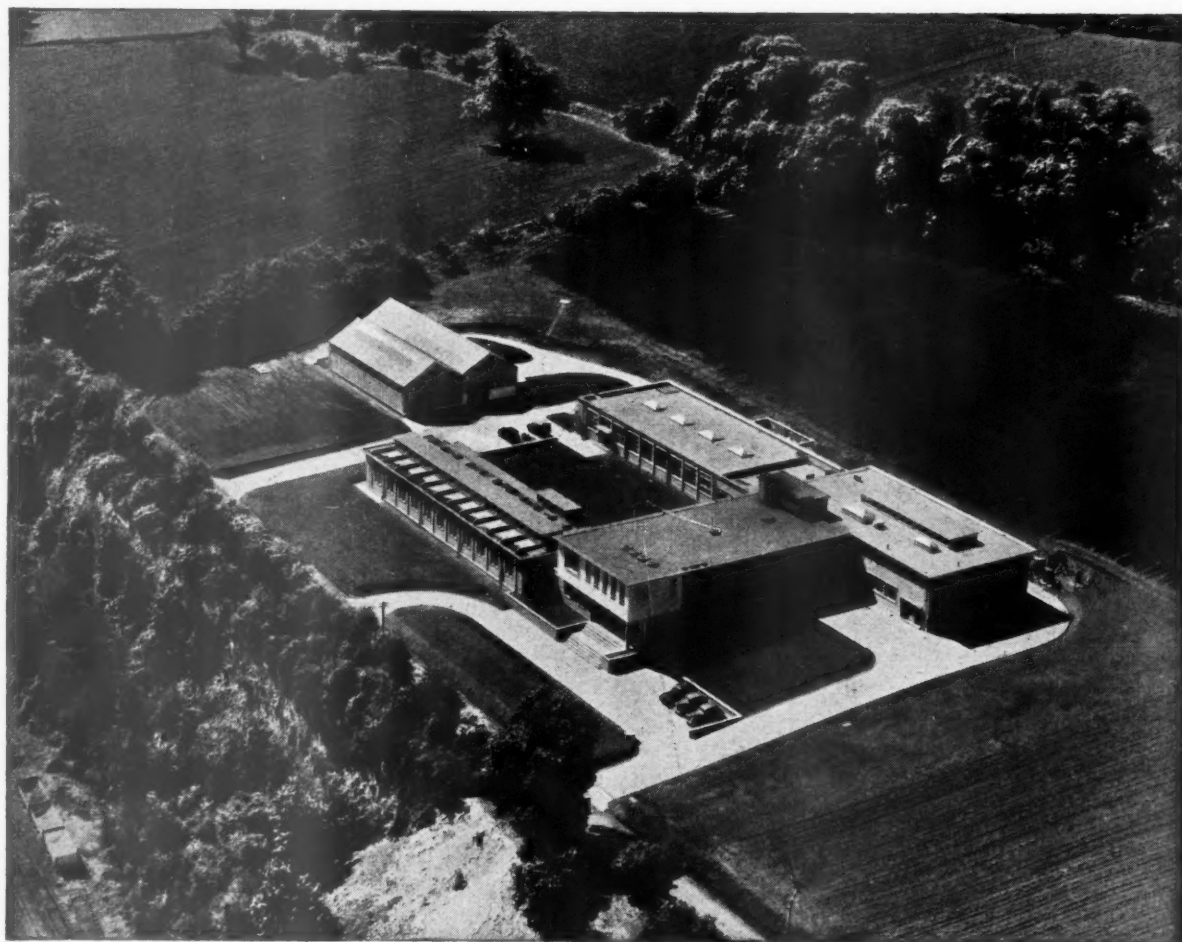


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Building for the Industries of the World



CEMENT

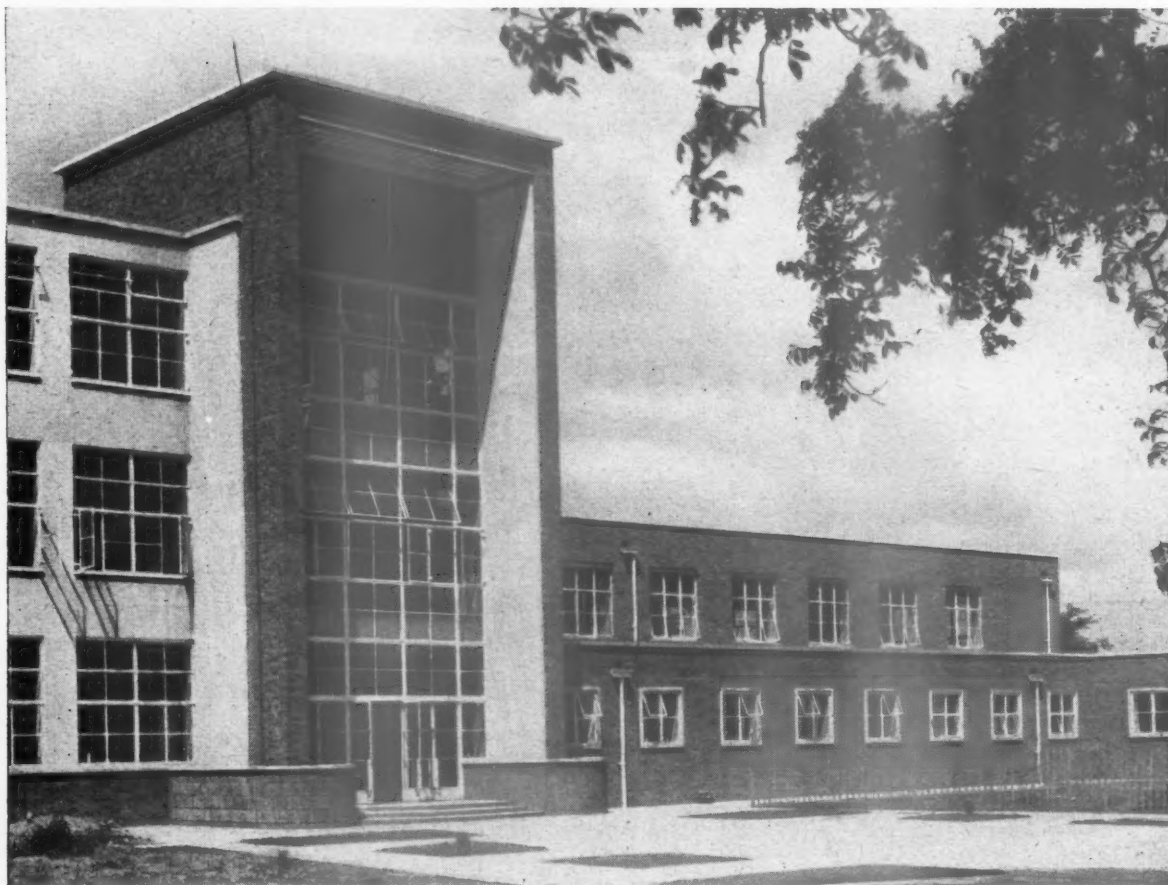
The new Research Laboratories of the Associated Portland Cement Manufacturers Ltd., recently constructed by Richard Costain Ltd. to the design of the Architects, Westwood, Sons & Harrison, F.R.I.B.A.

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CON. 15

TECHNICAL SECTION

Does it really save money, in the long run, to cut road areas on housing estates to a minimum? J. Mercer, of Crawley Development Corporation, does not think so. Such a saving, he says, is more than offset by the cost of maintenance of verges, the extra time taken in refuse collection and the increased length of water mains. Mr. Mercer, who is Crawley's assistant chief engineer, made this point when he spoke at the recent Public Works and Municipal Services Congress, at Olympia. In urban areas, he said, the maintenance cost of grass verges is substantially the same as that of roads, and works out at about 4½d. per sq. yd. per annum. Granted that in the garden city type of layout you can easily have 100 sq. yds. of verge per house, this will be reflected in a weekly charge per house of 9d. Most people would regard this as a modest price to pay to have their gardening done for them. More troublesome is the refuse collection: not because the sum involved is great (about 5½d. per week per house) but because it represents a toll which is exacted from every person who has to visit the house (including the occupier). What Mr. Mercer was out to reveal in his talk was "hidden cost." Hidden because it was not the business of the department which built the house to take it into account. Distance is the classic source of hidden cost: when *that* is seriously considered we may well expect a drastic change in our planning ideas.

20 CONSTRUCTION: COMPLETE STRUCTURES Unité d'habitation, Nantes : 1



Admirers and critics of Le Corbusier's Unité d'habitation at Marseilles will doubtless have been wondering how the second "Unité," that of Nantes, has been shaping. (See AJ, July 15, 1954). This week a JOURNAL correspondent, who made a special visit to Nantes on behalf of the JOURNAL, contributes the first of two articles on this subject. In this article he presents the job against the background of French building and describes some of the more unusual structural techniques. In a second article he will comment on the standards of performance which the building seems likely to realise, and will have something to say about cost.

Nantes is the sixth or seventh biggest city in France; its main industry is shipbuilding, and in addition it is notable for being the collecting and distributing centre for a wealthy agricultural hinterland. The main housing and town planning problems are raised by:

1. Destruction by bombardment.
2. An increase in population since 1939 from 190,000 to 230,000 (approx.) inhabitants.
3. Obsolescence and the replacement of

slums so terrifying as to make the worst of Glasgow or Liverpool look like a garden suburb.

There has been no great eagerness on the part of private enterprise to rush to the rescue. Rent restrictions have virtually paralysed private rebuilding for nearly two generations, due on the one hand to the poor return which building offers as an investment and, on the other, to the great financial advantage of living in cheap rented accommodation over building a home

RENAISSANCE in the city

The capture of Constantinople by the Turks influenced the Renaissance. The Great Fire was the cause of Wren reconstructing St. Paul's. Today the architect is changing the face of our war ravaged cities. Dunster House is a good example. Here are eleven floors—each laid by Vigers Bros.—a total of 150,000 feet super in beautiful Teak blocks.

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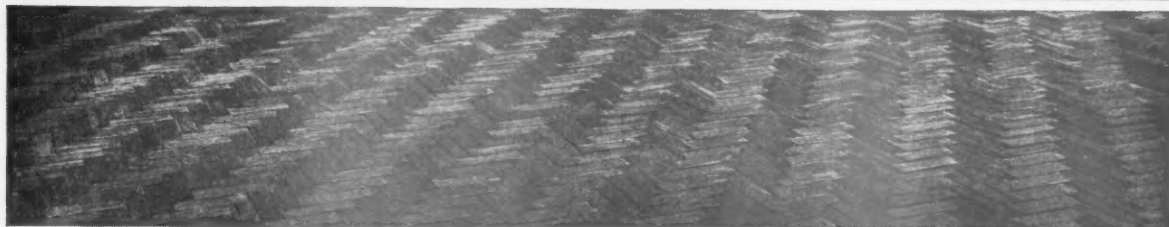


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of one's own. But in the past three or four years the French Government have pursued a policy of encouraging rebuilding by a system of subsidies and loans to both public and private enterprise, using various agencies for their distribution. One such agency is a private co-operative building society, La Maison Familiale, which was founded in 1911 and claims as its object the encouragement by the widest possible means of the acquisition by tenants of the property in which they live. And whatever may be alleged about L'Unité No. 1 at Marseilles, whatever truth may lie in the rumours that some of the flats are still unlet, that the cost has been fabulous, that the rents are excessive, these are evidently insufficient to prevent this old-established building society from backing another horse from the same stable.

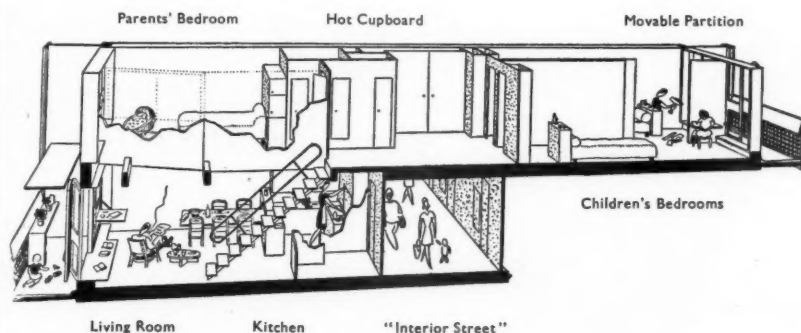
Work was put in hand on the new building in 1952, and in June of that year the Society issued a prospectus describing the scheme and inviting applications from both employing organizations and private persons for the reservation of accommodation. The scheme is known as L'Unité d'habitation de Nantes-Rezé, but perhaps the word "Unité" is not quite so well justified as it was at Marseilles, for this building is not so large, and except for a nursery school on the roof, it contains none of the communal services which make the Marseilles block virtually a township in itself. Nevertheless, there is no single domestic building in Nantes which can approach it in size, perhaps its nearest competitor being the 10-storey Victor Mangin Development (Architect—M. Ferré) shown in Fig. 2.

THE SCHEME

L'Unité is seventeen floors, not counting the pilotis and the roof accommodation. On these seventeen floors are 294 flats of varying sizes (for the number of each type see the table in Fig. 1), of which most

Type	Area in feet sup.	No. of rooms (excl. K. & Ba.)	No. of type
B	255	1	33
C	500	2	33
D	655	3	26
E	1,000	4	183
F	1,244	5	14
G	1,366	6	5
		Total	294

Fig. 1 (above). Table of accommodation. Fig. 2 (right). The nearest approach to the Unité: 10-storey flats in the Victor Mangin development. Fig. 3 (below). Sectional perspective of the Unité showing the arrangement of a three bedroom apartment.



have three bedrooms and a living room, arranged on the same "Duplex" principle as at Marseilles, with access running horizontally from lifts and staircases along the internal corridor "street."

A typical three-bedroomed flat is again

similar in principle to those at Marseilles, except that here one of the bedrooms has been allowed to oversail the living room, so that the latter no longer goes up through two storeys, except for the width of the stairs.

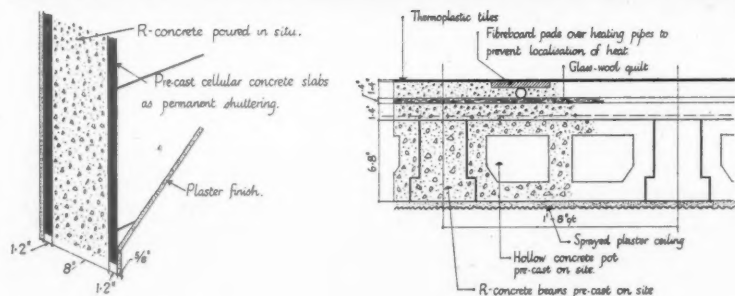
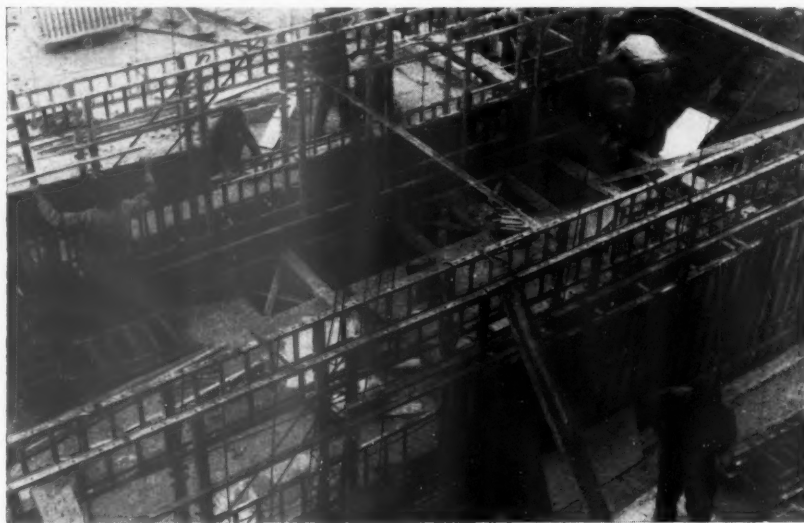
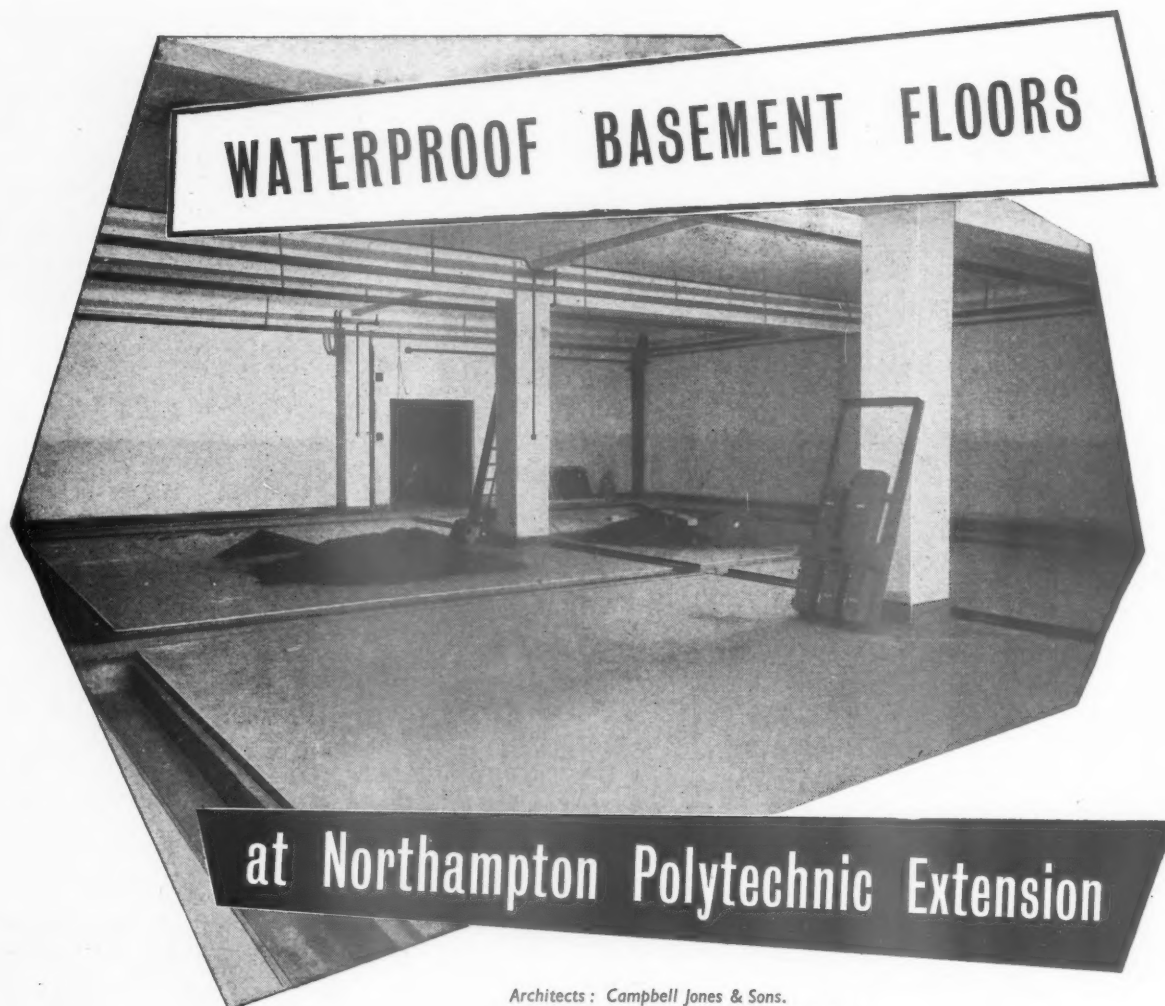


Fig. 4 (above left). Fixing the shuttering for the party walls. Fig. 5 (above). Beams and pots waiting on the site. Fig. 6 (extreme left). Party wall construction. Fig. 7 (left). Section through floor structure. Note use of fibreboard pads to ensure a larger heating area.



Architects : Campbell Jones & Sons.
Contractors : Patman & Fotheringham Ltd.

In constructing the new extension to the Northampton Polytechnic, St. John Street, London, E.C.1, the whole of the basement floor was made waterproof by the inclusion of 'PUDLO' Brand Cement Waterproofer throughout the thickness of the concrete. The illustration above shows the Hydraulics Laboratory which occupies a small section of the new basement.



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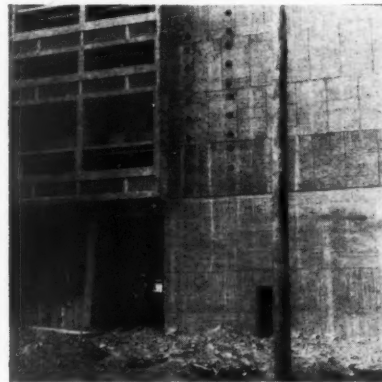
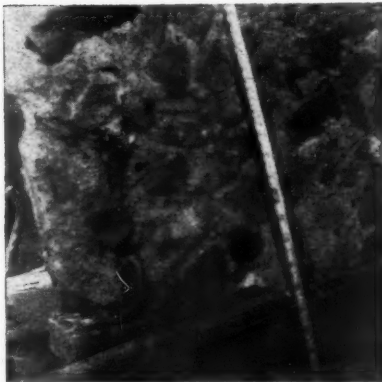
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FLAT PLANNING AND EQUIPMENT

Particularly good is a folding partition which separates the two long and narrow children's bedrooms; when thrown open it forms a generous play space by the window. Nevertheless, the incidence of cupboards is low by English standards, and certainly there will be no room in the flats for any of the cumbrous and depressingly ugly furniture which seems to be all that is available in most of the stores. Again, by English standards, the amount of equipment built into the kitchen is vestigial; there is no more than a glazed earthenware sink and draining board combination. There is room by the side of this, however, for a small table, some kind of cooker, and possibly a frig. and (for an optional extra) the kitchen can be separated from the living room by a sort of sideboard-cum-cabinet, about the size of a generous upright piano. There is also a hood over the cooking space, as required by French bye-laws, and there is a pan cupboard cunningly incorporated into it (see Fig. 13). It is perhaps worth comparing this arrangement with that provided in the low-cost housing of the Victor Mangin group where there is a very generous dining/kitchen as well as a large living room, and a large utility balcony big enough to contain one of those vast concrete laundry troughs which seem such a primitive feature of French living. It must be added, however, that the balcony running the full width of the Unité living-room makes a telling contribution to the space, and the folding-leaf French door is an idea well worth cribbing. Despite the fact that there are 294 flats in the one building, the fact that the party walls extend right out to the edge of each balcony provides a degree of privacy unusual in most schemes of this kind.

MAIN STRUCTURE

The main structure is a very simple reinforced concrete egg crate, in which the walls are cast *in situ* and the floors consist of precast concrete beams at 1-ft. 8-in. centres, with concrete block infilling.

M. Freyssinet is the engineer of the project, working in co-operation with Le Corbusier, and originally two schemes were produced for the structure, the second incorporating pre-stressing. When the two schemes were costed, the pre-stressed system proved to be more expensive and was therefore rejected.

Cellular concrete was used in an attempt to reduce sound transmission although within the limits of English experience, it is difficult to see that such material would have much contribution to make in this respect.

The beams and infilling blocks which make up the structural floor, although precast, are all made up on the site.

In detail the walls to the egg crate (which form the party walls to the flats) consist of

a reinforced concrete core poured *in situ* between a permanent shuttering of pre-cast cellular concrete slabs about 1 ft. 8 in. by 2 ft. and less than 1 1/4 in. thick (Fig. 4). In order to overcome the shrinkage and twisting problems that would otherwise arise in casting such thin concrete slabs, the cellular concrete is first of all cast in the form of large blocks from which the slabs are then cut like slices of bread off a loaf, by means of a mechanical saw. The method is also more time-saving (the material is very soft and it takes only about a minute to slice off one slab) than casting each one separately in a mould. The original intention was that these slabs should be used in a similar way to the well-known proprietary makes of steel shuttering. Unfortunately in practice pressure of concrete led to their collapse, with the result that further soldiers had to be added to the form work.

FACING SLABS

The egg crate frame is faced externally by slabs of precast concrete also fabricated on the site by a somewhat novel method. A four-sided mould is laid on a bed of sharp gritty sand and inside the mould large chunks of sandstone about the size of an orange are placed manually in the sand bed (Fig. 8). Concrete is then added and when the slab is removed from the mould a very rough chunky finish is obtained (Fig. 9).

It was explained to your correspondent that the unusual amount of precasting carried out on the site avoided a sales tax which would otherwise be chargeable at each stage of manufacture; but independent of this, it obviously becomes more economical for a building of this size to set up plant on the

site for the fabrication of a long run of components.

INFILLING PANELS

Following the erection of the shell, the next stage in the sequence of building operations is the insertion of infilling panels into the apertures of the egg box. These panels consist of large window-cum-door units, each of which forms the external wall of one room. They are made up of a pinewood frame ex 7 in. by 2 in., prefabricated in Corsica. Hermetically sealed double glazing similar to "Insulight" is inserted into windows and door, and the solid parts of the unit consist of an outer skin of block board, a cavity and an inner lining of plywood (Fig. 11).

SERVICES

The main service runs are then inserted. Most of these run vertically in a duct and consist of hot and cold water supply, hot water for floor heating, fire hydrant supplies, soil pipes, and vents for the forced extraction of foul air from the kitchen, W.C. and bathroom (Fig. 12), which in plan are all grouped round the service duct.

Floating floors are then laid, and incorporated in them are the floor heating pipes and timber channels to receive internal partitions. These follow immediately afterwards in the form of prefabricated panels about 2 in. thick made up of plywood on studding.

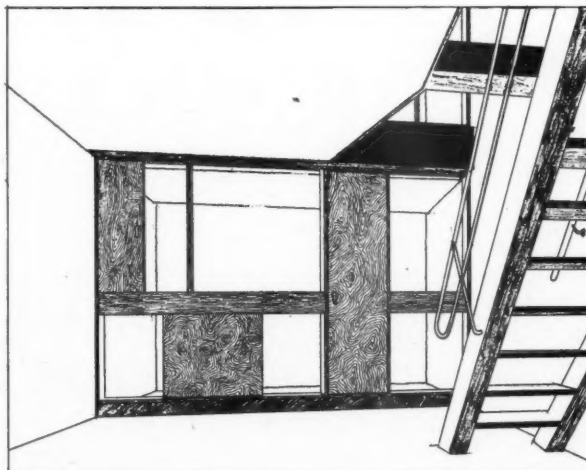
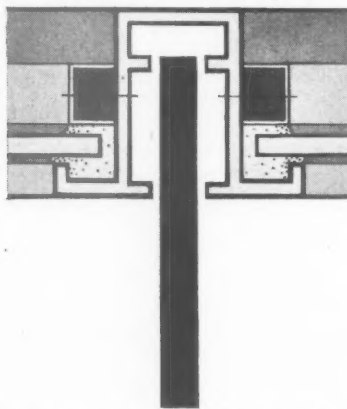


Fig. 11. Perspective showing infilling panel in the living room.

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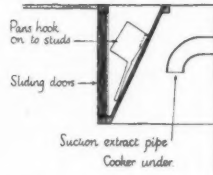
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Fig. 12 (left). Detail showing service duct and pipes for underfloor heating. Fig. 13 (above). Section showing pan cupboard in hood over cooking space.



INTERNAL FINISHES

The egg box walls dividing one flat from another are finished in plaster, and on the upstands of concrete beams, etc., a plaster finish has been obtained which is reminiscent of that pleasant unevenness one associates with old limewashed farm houses. Ceilings are finished with a rendering on to which is sprayed a very rough Tyrolean mixture. This spray is applied under pneumatic pressure, which forces the rendering from a central pump on each floor, through hoses, to the point of application.

SITE ORGANIZATION

The organization of the job appears to be really excellent. The shell, which by October, 1954, was very nearly complete, has been erected at a rate of one quarter of one floor per week, with a labour force of fifteen to twenty workmen. The whole of the internal partitions in a three bedroomed flat can be erected by two men in one working day. It seemed to your correspondent that this notably rapid progress was due mainly to the following factors:—

1. A very simple design which had taken careful account of erection sequence, e.g., wide balconies in front of each flat mean that the external infilling panels (and therefore virtually the whole of the external wall) can be erected without scaffolding. This applies also to the pre-cast concrete balcony balustrades.
2. The employment of site mechanization wherever possible, e.g., the plaster pump and slab sawing machine already referred to, also a tower crane.
3. The existence of a Site Superintendent or "Pilot," an individual whose express function is to co-ordinate, and if need be, chivvy, the various contractors employed on the works. He is a qualified engineer—a sort of production manager. There is no General Contractor on the job at all.

THE INDUSTRY

From the Industry this week, Brian Grant reports on alloy roofing tiles, an electrical supply failure alarm and electrical trunking.

ALUMINIUM ROOFING TILES

The illustration on the right shows Prefatiles, aluminium alloy roofing tiles which the makers claim to be weatherproof with a pitch as low as 9 degrees, and which have a weight, as laid, of only 4 lb. per sq. yd. The tiles measure 2 ft. 2½ in. wide and are 1 ft. 6½ in. deep, and have three main corrugations with two auxiliary ribs between each corrugation to give extra stiffness. The bottom of each tile is folded under, and the top folded over, so that each course forms a welted joint with the one above and the side corrugations of each tile overlapping. Each tile is held by two clips which are tucked into the top fold and bent over and nailed to the tiling batten; there are thus two fixing holes in the tiles themselves. Two types of special are needed, an eaves course (type C) in which the corrugations run out near the lower edge, leaving a flat tail which is held by the verge trim: a ridge course (type B) is also necessary, and in this the ribs run out at the top, leaving a straight run of fold to be picked up by the ridge, which is supplied in 4-ft. lengths. Eaves trim and valley flashings are supplied in soft temper coils for use as required.

The tiles will carry a superimposed load of 40 lb. per sq. ft., and as the nails are in shear to any roof loads they should be well able to resist any tendency to lift. (Prefatiles (G.B.) Ltd., 78, Buckingham Gate, London, S.W.1.)

ELECTRIC SUPPLY FAILURES

There are times when the failure of the mains supply or even a blown fuse can be something of a disaster in factories, farms, or even in a burglar alarm system. For

really vital services, of course, some form of automatic stand-by plant is necessary, but there are circumstances where a warning may be enough if other precautions can be taken—in the restarting and setting of time clocks for instance. Gents of Leicester have now produced an alarm which will sound a buzzer in the event of a general mains failure, or, when it is applied to a single important circuit, if a fuse should blow. The alarm is simple to install and needs only a small space, 7½ by 5½ by 3 in. deep: the alarm buzzer can be placed wherever it is needed, and is worked by a pair of easily replaceable torch type dry cells. (Gent & Co. Ltd., Faraday Works, Leicester.)

ELECTRICAL TRUNKING

The G.E.C. has produced a medium duty metal-clad distribution system with capacities ranging from 75 to 200 amps. per bar. The system consists of two, three or

four copper bus bars in sheet steel trunking. Joints are at 12 ft. intervals and each length is provided with outlets at 2 ft. or 3 ft. centres to take the plug-in tapping units. To suit the straight runs of trunking there are vertical and horizontal right angles, tees, intersections and stop ends, and both vertical and horizontal tap off units are available. (The General Electric Co. Ltd., Magnet House, Kingsway, London, W.C.2.)

CORRECTION

In the A.J. for October 28 my note on the Etonian lavatory contained some errors which must be corrected. The nominal size is 15 in. by 13 in. and the prices are £3 0s. 3d. for the weir overflow and £2 12s. 3d. for the slot overflow type, these prices not including taps or other necessary fittings. Non-concussive spring taps are £3 15s. 6d. per pair. (Ideal Boilers & Radiators Ltd., Ideal Works, Hull.)



Fixing a Prefatiles roof.

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Buildings Illustrated

Garage for Perivale Motors Ltd. in Western Avenue, Greenford, Middlesex. (Pages 677-679). Architects: Wallis, Gilbert & Partners; Architect in-charge, John Ware A.R.I.B.A.; Quantity Surveyors: Stanley Griffith & Partners; General Contractor: Whyatt Builders Ltd.; Sub-contractors: steel reinforcement, Twisteel Reinforcement Ltd.; bricks, Uxbridge Flint Brick Co. Ltd.; roofing felt, Rock Asphalte Co. Ltd.; partitions, Messrs. Sidons & Internal Construction Ltd.; patent glazing, Aygee Ltd.; patent flooring, E. J. Elgood Ltd., and Art Pavements & Decorations Ltd.; central heating, plumbing, ventilation, W. C. Deane Ltd.; electric wiring, Rashleigh Phipps & Co. Ltd.; electric light fixtures, General Electric Co. Ltd.; sanitary fittings, W. N. Froy & Sons Ltd.; stairtreads, E. J. Elgood Ltd.; door furniture, Chubb & Sons Lock and Safe Co. Ltd.; folding gates, Acme Metal Works Ltd.; rolling shutters, Dennison Kett & Co. Ltd.; iron staircases, Geo. Wright (London) Ltd.; tiling, Carter & Co. (London) Ltd.; shop fittings, Haskins; signs, The Lettering Centre.

Corrections

The telephone number of Tretol was incorrectly given in their advertisement in the JOURNAL of November 11. It is Colindale 7223.

On October 21 Sundeala Insulation Board was incorrectly described in an advertisement as Insulation Hardboard.

Announcements

PROFESSIONAL

Mrs. M. E. L. Susan Duncan, A.R.I.B.A., A.A.D.I.P.L., has recently moved to 19, Wimpole Street, London, W.1.

Mr. Ronald R. Vardy, A.R.I.B.A., of "Copper Beech," The Fairway, Leigh-on-Sea, Essex (Telephone: Eastwood 55617), has been in practice for the past few months at his private address pending the completion of new offices, and would be pleased to receive trade catalogues.

TRADE

Mr. A. J. Betts, A.M.I.E.E., has been appointed General Sales Manager of Enfield Cables Ltd.

Mr. R. W. Allen, B.Sc., A.M.I.E.E., of Westbourn, Darras Road, Ponteland, Northumberland, who was recently appointed North East representative of Nife Batteries, Redditch, Worcs., can now be reached at home by telephone—Ponteland 2171.

Mr. R. A. King, Mr. A. Burn and Mr. R. Bell of Expandite Ltd., have been appointed Area Managers for London, Northern Area and the Western Area respectively.

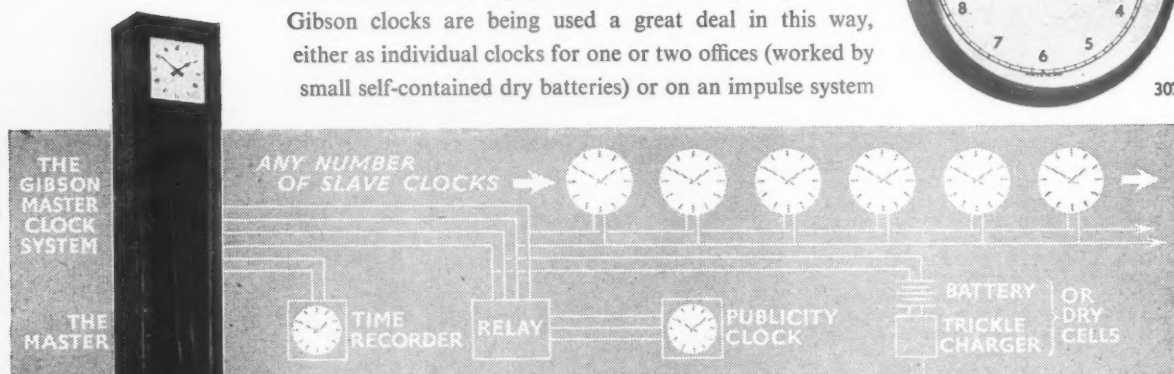
Mr. Arthur Shaw has been appointed Publicity Manager to Messrs. Sidney Flavel & Co. Ltd. Prior to joining this Company, Mr. Shaw was Advertising and Sales Promotion Manager for Messrs. Dimlex Radiators Ltd.

Mr. P. Ralph has been appointed Manager of the Scottish Branch Sales Office of the British Aluminium Company Limited, in succession to Mr. M. J. J. Richards who has been appointed Assistant Manager of London Branch Sales Office.

Mr. J. G. Jackson has been appointed Manager of the Glasgow Branch of Messrs. Enfield Cables Ltd.; Mr. F. R. Mackenzie Manager of the Newcastle Branch. Mr. W. F. Lawrence has been appointed Manager of the Southampton Branch, and Mr. H. Dennis, A.M.I.E.E., has been appointed Manager of the Manchester Branch of the same Company.

PLAN for CLOCKS

In the newest and best buildings the clocks are regarded both as architectural features and essential amenities; they go in before the walls are plastered. Gibson clocks are being used a great deal in this way, either as individual clocks for one or two offices (worked by small self-contained dry batteries) or on an impulse system



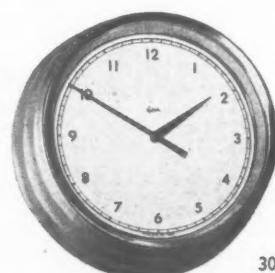
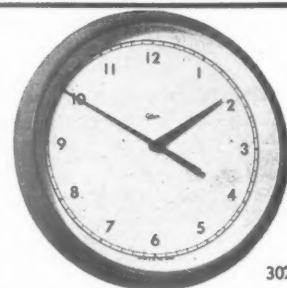
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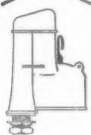
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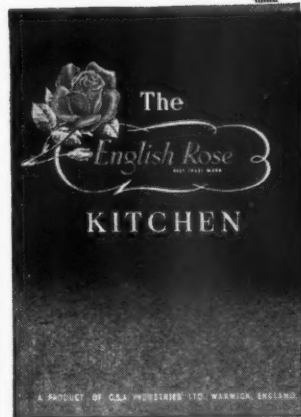
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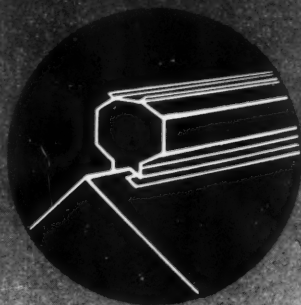
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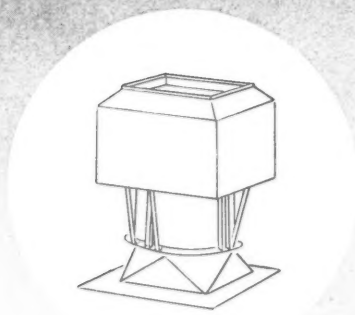
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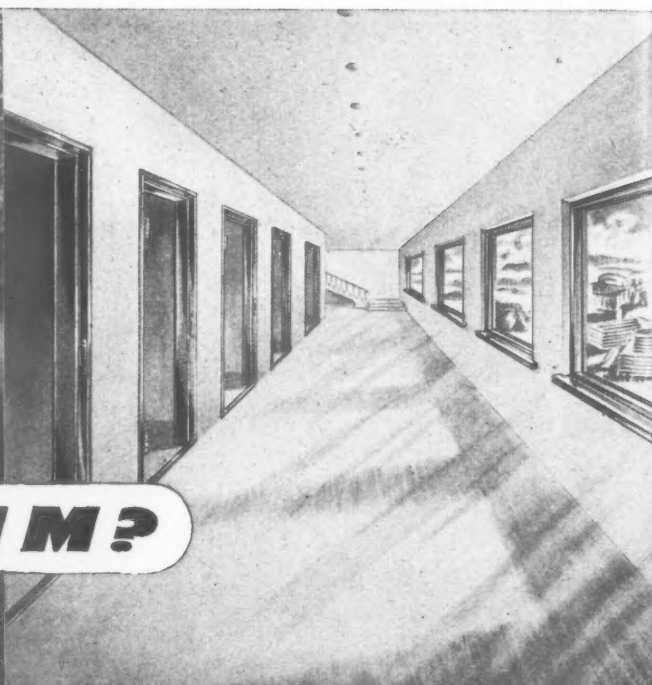
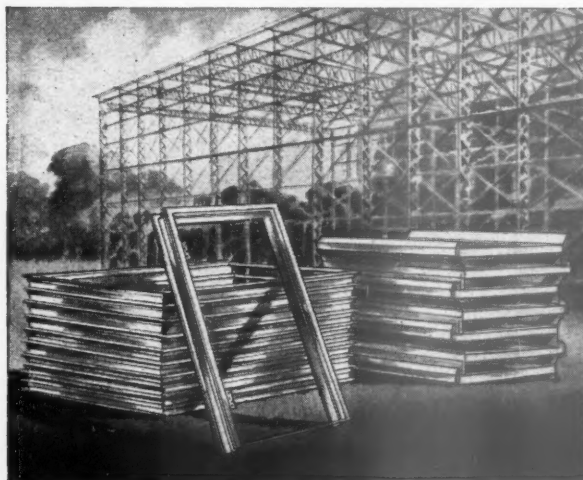
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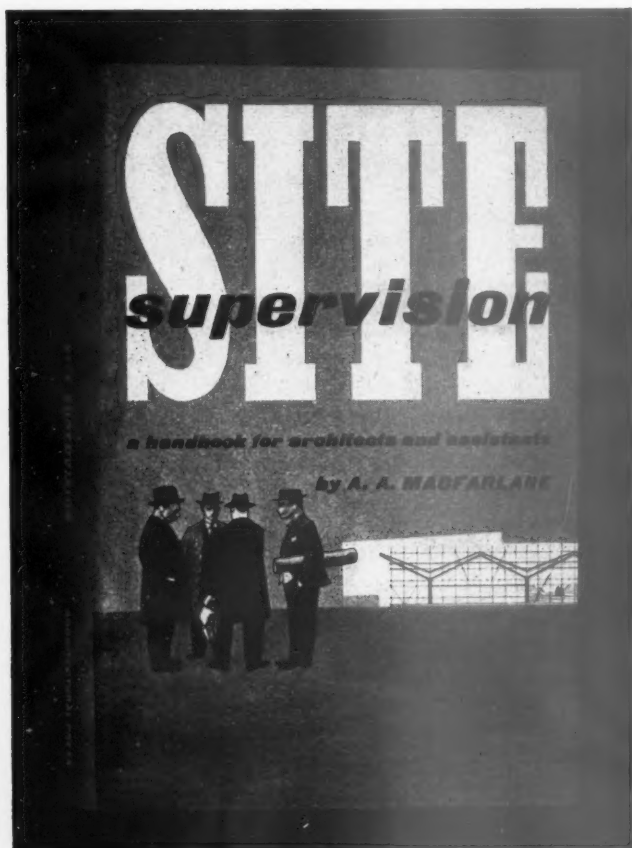
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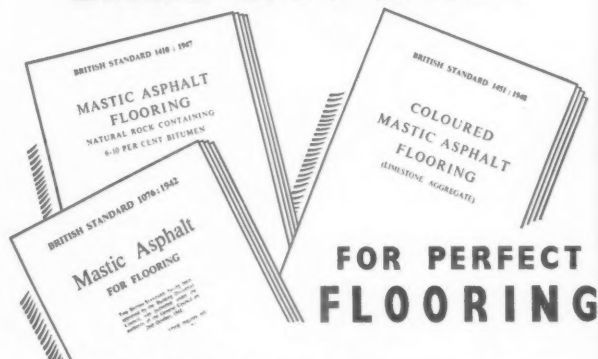
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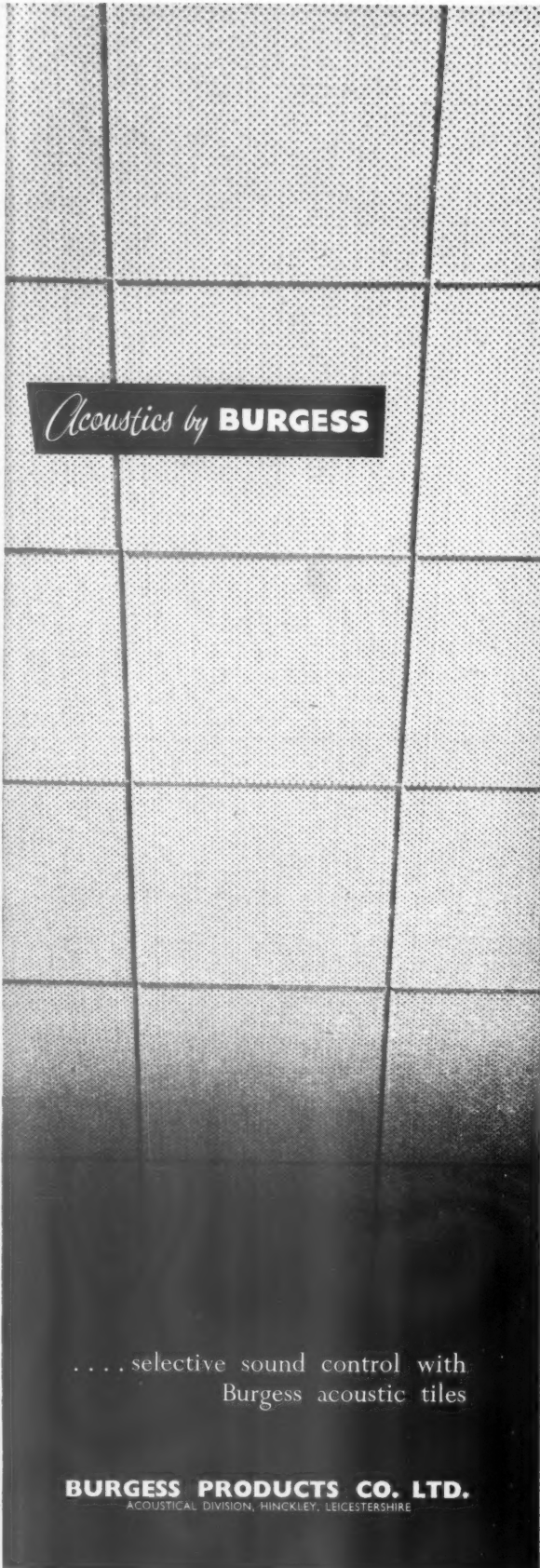
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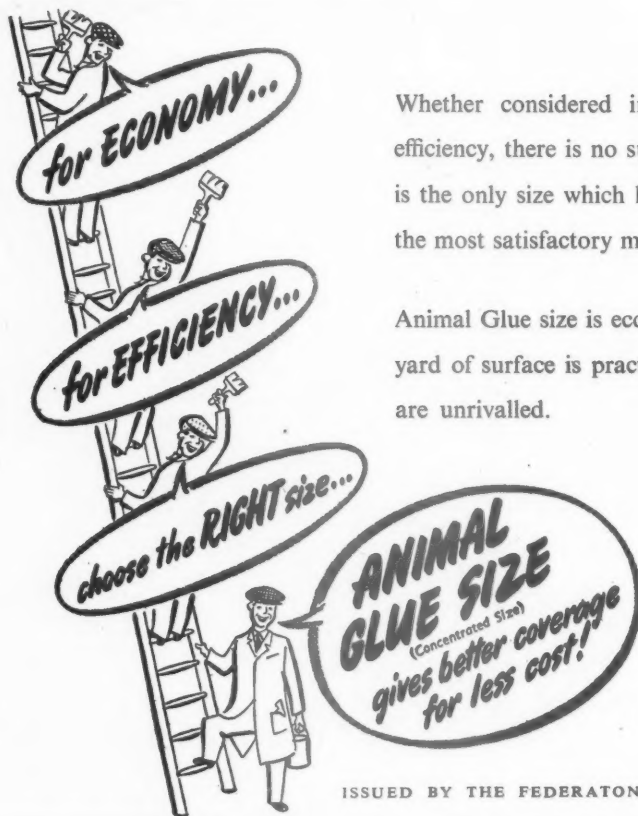
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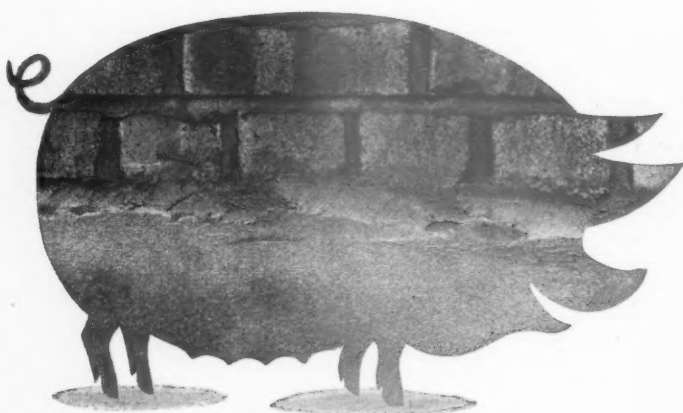
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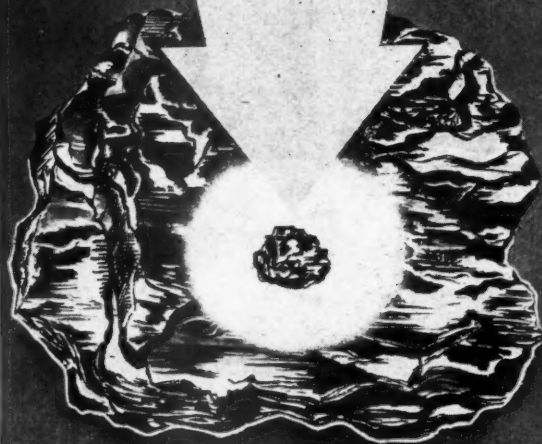
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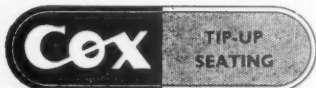
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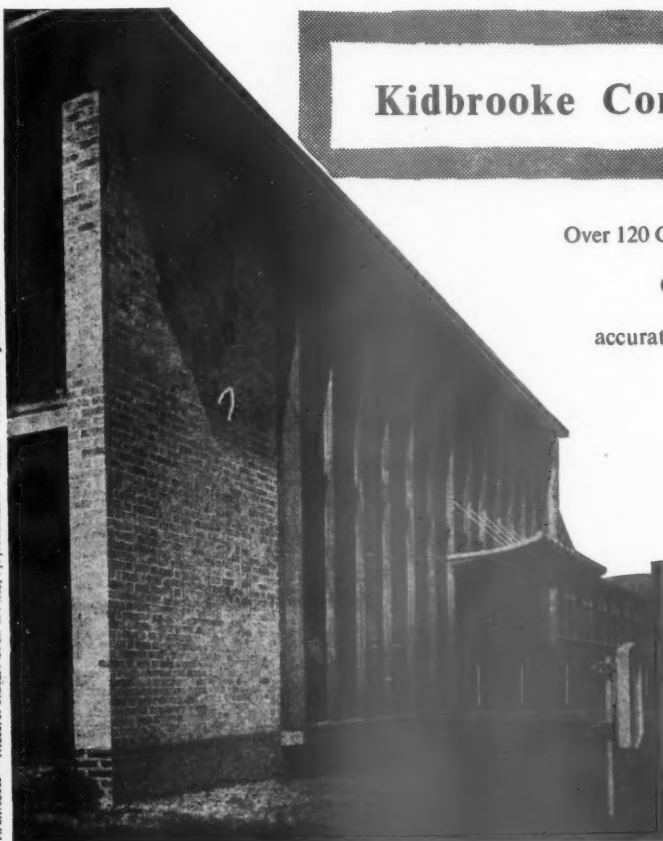
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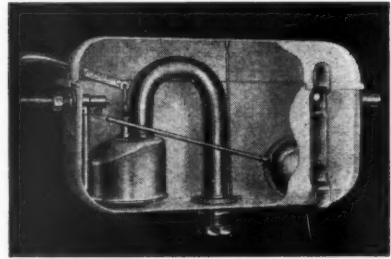
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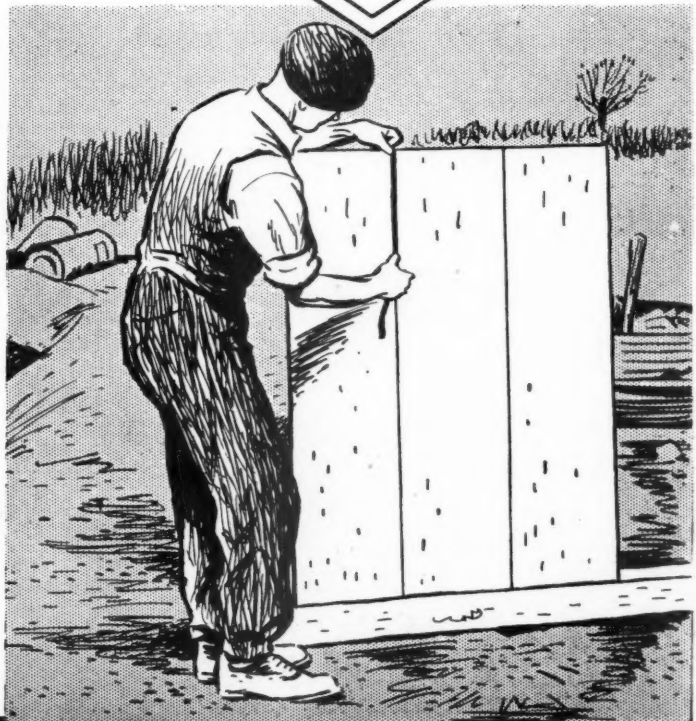
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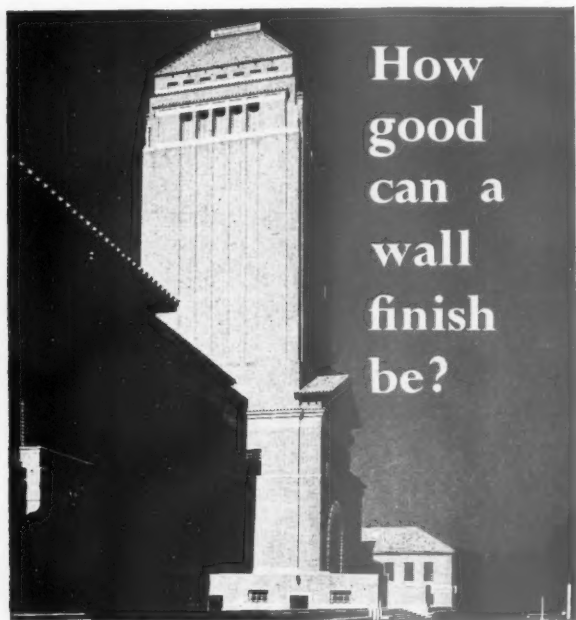
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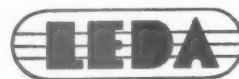


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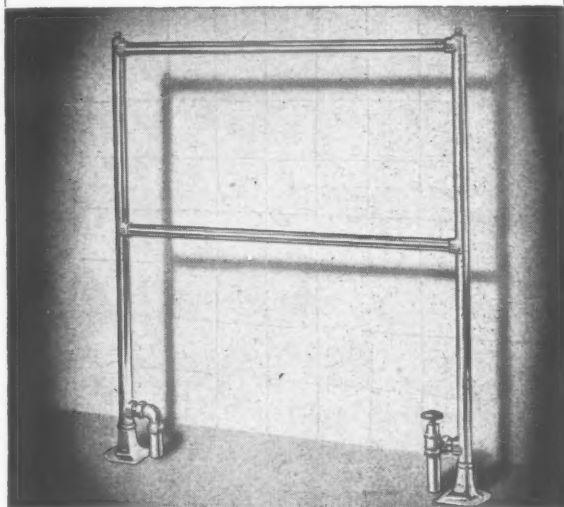
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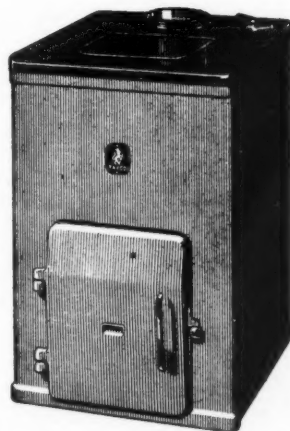
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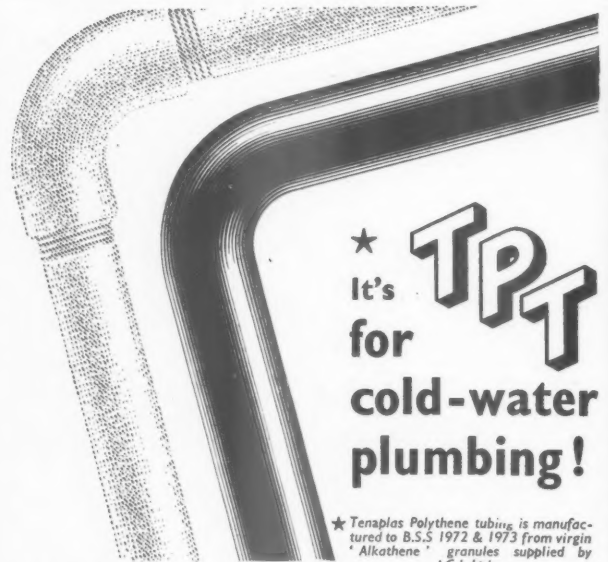
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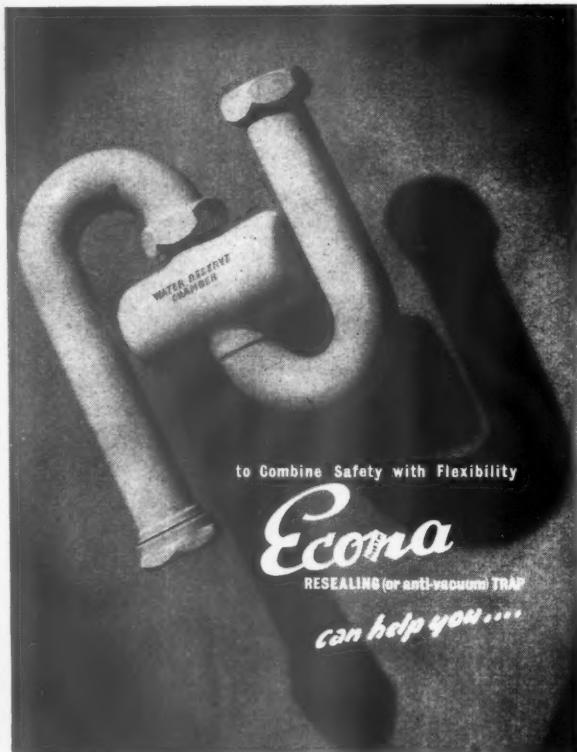
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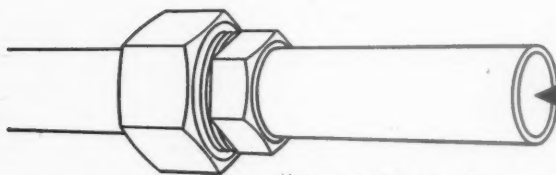
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ARCHITECTURAL DRAUGHTSMEN.

Applications are invited for the above positions in the Architect's Section of the Chief Engineer's Department in Central London.

Applicants should be neat draughtsmen and preferably have had several years' experience in an Architect's Office.

The post is graded under Schedule "D" of the National Joint Board agreement as Grade 6-£458-£595 7s. per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46, New Broad Street, E.C.2, to be returned within fourteen days of the publication date of this advertisement. Please enclose addressed envelope and quote ref. V/1785/A on envelope and all correspondence. 4803

BOROUGH OF TWICKENHAM-amended advertisement.-Applications are invited for the post of (a) SENIOR ARCHITECTURAL ASSISTANT, salary A.P.T.4 (£705-£825) and (b) ARCHITECTURAL ASSISTANT, A.P.T.3 (£625-£725), plus London weighting. Applicants for post (a) must have passed the Final and post (b) the Intermediate Examination of the R.I.B.A., and experience with a Local Authority will be an advantage.

Applications, stating age, qualifications, present and previous appointments, and giving details of experience, should be accompanied by copies of two testimonials, and delivered to Mr. A. S. Knolles, B.Sc., York House, Twickenham, not later than Saturday, 11th December, 1954. N.J.C. conditions will apply and superannuation payable. Canvassing will disqualify, and applicants must state whether they are related to any member of the Corporation or senior officer. W. H. Jones, Town Clerk, Municipal Offices, Twickenham, November, 1954. 4881

ISLE OF ELY COUNTY COUNCIL.
SENIOR QUANTITY SURVEYOR.

Applications are invited for the above appointment on the Staff of the County Architect within Grade A.P.T. V (New Scales) £750 × £30-£900, subject to the provisions of the National Scheme of Conditions of Service, the Local Government Superannuation Act, 1937, and to the passing of a medical examination.

Candidates should be Associate Members of the Chartered Surveyors Institute.

Forms of application may be obtained from the County Architect, County Hall, March, to whom they must be returned not later than 7th December, 1954.

R. F. G. THURLOW.

Clerk of the County Council. 4802

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Vacancies for ARCHITECTS Grade III (up to £892 10s.), and ARCHITECTURAL ASSISTANTS (up to £739 10s.), in Schools and Housing Divisions.

Particulars and application forms from Architect (AR/EK/A/2), County Hall, S.E.1. (1058) 2205

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

(a) PLANNING OFFICERS, Grade III (up to £892 10s.).

(b) PLANNING ASSISTANTS (up to £739 10s.). Professional qualifications: A.R.I.B.A., A.R.I.C.S. and/or A.M.T.P.I. required. Application forms and particulars from Architect (AR/EK/P/4), County Hall, S.E.1. 3420

DERBYSHIRE COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited from ARCHITECTS for appointments on A.P.T. Grades VI, IV, III and II. N.J.C. conditions. Details of the various appointments will be sent with application forms, to be obtained from F. Hamer Crossley, St. Mary's Gate, Derby. 4854

GOVERNMENT OF SINGAPORE.
ARCHITECTS-PUBLIC WORKS
DEPARTMENT.

To design and supervise the construction of Government Buildings.

Appointment is on contract for three years in the first instance in salary range £1,290-£2,338 per annum, with a gratuity of £200-£280 per annum payable on satisfactory completion of contract. A substantial variable cost-of-living allowance is also payable.

Free passages provided on appointment for the officer, his wife, and up to three children under 10 years. Furnished quarters, if available, are provided at reasonable rents. Leave is granted at the rate of 45 days for each year of resident service.

Candidates, who should be not less than 25 years of age, should be A.R.I.B.A. or F.R.I.B.A.

Apply in writing to the Director of Recruitment, Colonial Office, Great Smith Street, London, S.W.1, giving briefly age, qualifications and experience, and quoting reference No. BCD 112/25/03. 4855

SOUTHERN ELECTRICITY BOARD.

DRAUGHTSMAN (CIVIL ENGINEERING). No. 2 (Newbury) Sub-Area Office. Salary: N.J.B. Schedule D, Grade 6 (£510 × £20-£530 per annum). N.J.B. conditions of service.

Applicants should be capable of preparing drawings and making calculations, and have knowledge of building construction, steelwork, and reinforced concrete structures.

The successful candidate for the above appointment will be required to contribute to the B.E.A. and Area Boards' Superannuation Scheme, if eligible.

Applications on forms obtainable from the Sub-Area Secretary, 7, Oxford Road, Newbury, and returned to him in envelopes suitably endorsed not later than 10th December, 1954. 4856

KING'S COLLEGE HOSPITAL.
DENMARK HILL, S.E.5.

Applications are invited for the post of ASSISTANT to the Hospital Architect. Salary scale will be £540, plus £20-£600, inclusive of London weighting, and the appointment is subject to the National Health Service Superannuation Regulations. Applications, giving age, education, experience, and the names of two referees, should be sent to the undersigned.

S. W. BARNES.

House Governor. 4857

LONDON COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.

Vacancies for MAINTENANCE ASSISTANTS in the Maintenance Division of Architect's Department. Applicants should be capable of carrying out inspections and surveys of all types of buildings for maintenance repairs, redecorations and minor alterations, and have experience in preparation of estimates based on Schedule of Prices, specifications for and supervision of work carried out by either schedule contracts or direct labour.

Salary from £510 to £701 5s., according to experience, with opportunities of promotion to higher grades for suitably qualified assistants.

Application form, returnable by 11th December, from the Architect (AR/EK/MA/2), County Hall, S.E.1. (1532) 4869

COVENTRY CORPORATION requires FOUR PRINCIPAL ASSISTANT ARCHITECTS (salary £1,150 × £50-£1,350). Details of duties and application forms from City Architect and Planning Officer, Coventry, returnable by 13th December, 1954. 4879

**COUNTY COUNCIL OF THE COUNTY OF LANARK.
HOUSING ARCHITECT AND ENGINEER'S DEPARTMENT.**

Applications are invited for ARCHITECTURAL ASSISTANTS on A.P.T. Grades II to VIII (£520-£870). Must be experienced in design and preparation of working drawings, etc., for Housing Development. Placing according to qualifications and experience.

Superannuation. Medical examination. No canvassing.

Applications, stating age, qualifications and experience, and accompanied by the names and addresses of three referees, to be lodged with S. McCall, F.R.I.B.A., F.R.I.A.S., County Housing Architect and Engineer, 23, Beckford Street, Hamilton.

WM. C. BROWNIE,
County Clerk.

Lanarkshire House, 191, Ingram Street,
Glasgow, C.1. 4870

COVENTRY CORPORATION invites applications from suitably qualified persons for appointment of

CITY ARCHITECT AND PLANNING OFFICER.

Salary: £2,200 × £100 × £100 × £50 = £2,450, commencing according to qualifications/experience. Statement of duties and general conditions of appointment obtainable from Town Clerk, Council House, Coventry. Completed applications by 11th December, 1954. Canvassing, directly or indirectly, will disqualify. 4871

THE UNIVERSITY OF LIVERPOOL.

Applications are invited for the post of LECTURER AND STUDIO INSTRUCTOR in the School of Architecture. The initial salary will be within the range £550-£950, according to qualifications and experience.

Candidates will be expected to have had several years of experience in practice, and preference will be given to those with special knowledge of building science and construction, or with interest in pursuing architectural research in historical, social or structural fields.

Applications, stating age, qualifications and experience, together with the names of three referees, should be received not later than 31st December, 1954, by the undersigned, from whom further particulars may be obtained.

STANLEY DUMBELL,
Registrar. 4915

**BASILDON DEVELOPMENT CORPORATION.
ESTATES DEPARTMENT.
APPOINTMENT OF TECHNICAL ASSISTANT.**

Applications are invited for the post of Technical Assistant on the staff of the Chief Estates Officer. Applicants should have passed the Final or Intermediate Examination (Building Sub-Division) of the R.I.C.S. or hold an equivalent qualification, and must be capable of preparing specifications, schedules of dilapidations, and of supervising the maintenance and repair of buildings. Experience in taking over new buildings from contractors will be an advantage. Salary will be within the range of £510-£560 per annum (point of entry being determined by qualifications and experience).

The position is temporary in the first instance, but is likely to become permanent in the near future. Housing accommodation will be made available on rent in approved circumstances.

Applications, stating age, education, qualifications, present and previous appointments with salaries, experience in precise terms, and giving the names of two referees, should reach the General Manager, Basildon Development Corporation, Gifford House, Basildon, Essex, by the 13th December, 1954. 4883

CITY OF WINCHESTER.

CHIEF ASSISTANT ARCHITECT.

Applications are invited from qualified Architects for the appointment of Chief Assistant Architect in the City Engineer's Department, at a salary in accordance with new Grade IV of the A.P.T. Division of the National Scales, i.e., £675, rising by annual increments of £30 to £825.

Candidates should be Corporate Members of the Royal Institute of British Architects, and have had previous experience in the design and preparation of plans and details for houses on Municipal Housing Estates, including the supervision of work under contract.

The appointment is a permanent one, terminable on either side by a month's notice in writing, and the successful candidate will be directly responsible to the City Engineer. Consideration will be given to the provision of housing accommodation.

Applications, stating age, present salary, present and previous appointments, details of training and experience, together with names and addresses of three referees, should reach the undersigned not later than 16th December, 1954.

R. H. McCALL,
Town Clerk.

Guildhall, Winchester.
23rd November, 1954. 4882

COUNTY OF LEICESTER.

ASSISTANT ARCHITECT (£625-£675).

Applicants must be Registered Architects experienced in the preparation of working drawings from sketches and capable of taking charge of small contracts. Apply by 17th December on form obtainable from County Architect, 123, London Road, Leicester. 4913

PADDINGTON BOROUGH COUNCIL.
require ARCHITECTURAL ASSISTANT (new A.P.T. Grade III (£630-£755 p.a.)) (£10 less if under age 25). Starting salary according to experience. Young architect of A.R.I.B.A. standard with practical experience in connection particularly with the design and supervision of good contemporary multi-storey housing work, and the ability to produce work speedily. Work will also include interesting schemes for other Council departments. Write age, qualifications, and details of past experience and training to the undersigned by 13th December, 1954. (Quote "A188.")

W. H. BENTLEY,
Town Clerk.

Town Hall,
Paddington Green, W.2. 4896

WEST RIDING OF YORKSHIRE TERRITORIAL AND AUXILIARY FORCES ASSOCIATION.

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT in the Architect's Dept., at a salary of £525-£600.

The appointment is superannuable and subject to one month's notice on either side.

Applications, giving full details of age, experience, together with the names and addresses of two referees, should be delivered to the Secretary at the address below not later than 16th December, 1954.

20, St. George's Place, York. 4916

STEVENAGE DEVELOPMENT CORPORATION.

Applications are invited for the post of MODEL MAKER in the Chief Architect's Department on Clerical Division N.J.C. scale £495 × £15-£540 p.a.

Candidates must be able to construct all types of architectural models from drawings for presentation to Corporation Committees and exhibition to the public.

Housing accommodation will be available in due course in an appropriate case.

Applications giving details of experience and names of two referees should be sent to the Chief Administrative Officer, Aston House, near Stevenage, not later than Monday, 13th December, 1954. 4914

CITY OF CAMBRIDGE.

APPOINTMENT OF ASSISTANT ARCHITECTS.
Applications are invited from Architects for the following appointments in the Architectural Section:—

- (a) SENIOR ASSISTANT ARCHITECT—£675-£825, New Grade IV.
- (b) ASSISTANT ARCHITECT—£600-£725, New Grade III.

Applicants for (a) preferably should have considerable experience in the design and construction of new schools and be capable, if required, of supervising the work of junior assistants, and for (b) good general experience of housing and other local authority building work.

Commencing salaries will be fixed in accordance with qualifications and experience.

The appointments are pensionable, subject to satisfactory medical examination, and are terminable by one month's notice on either side.

Housing accommodation is available.

Application forms may be obtained from T. V. Burrows, City Surveyor, Guildhall, Cambridge, and should be returned to him by Saturday, 18th December, 1954.

ALAN H. I. SWIFT,
Town Clerk.

The Guildhall,
Cambridge.
22nd November, 1954. 4898

PETERLEE DEVELOPMENT CORPORATION.

CHIEF ARCHITECT'S DEPARTMENT.

- (a) Appointment of ARCHITECTURAL ASSISTANT (Salary £610 × £50-£710 p.a.).
- (b) Appointment of JUNIOR ARCHITECTURAL ASSISTANT (Salary £460 × £25-£535 p.a.).

Applications are invited for the above appointments.

Applicants for appointment (a) should preferably be up to the standard of the Final Examination of the R.I.B.A. This appointment is in the first instance temporary.

Applicants for appointment (b) should be up to the standard of the Intermediate Examination of the R.I.B.A.

These appointments are superannuable and will be made subject to a satisfactory medical examination. Housing accommodation may be made available if required.

Applications giving details of education and training, qualifications and experience, together with names of two referees, should be submitted to the undersigned not later than Tuesday, 14th December, 1954.

A. V. WILLIAMS,
General Manager.

Shotton Hall,
Castle Eden,
Co. Durham. 4897

BATTERSEA M.B.C. require TWO ARCHITECTURAL ASSISTANTS. Salary scale applicable from 1st January, 1955: £560-£640 (new Grade A.P.T. II), plus London weighting. L. G. Supn. Act. Commencing salary according to experience but previous local government experience not essential. Work of the Department includes public buildings and multi-storey flats. Application forms from Borough Engineer, Town Hall, Battersea, S.W.11. Closing date, 20th December. 4924

INVERNESS COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of TWO ARCHITECTURAL ASSISTANTS in the above Department, on salary scale £630-£680, with placing according to experience and qualifications.

Candidates must be Associate Members of the Royal Institute of British Architects, and preferably should have experience in local authority housing and educational work.

Housing accommodation may be made available, if required, to the successful candidates.

Applications, stating age, particulars of professional training, experience and qualifications, together with the names of three persons to whom reference may be made, should be lodged with the undersigned not later than 14 days after the publication of this advertisement.

R. WALLACE,
County Clerk.

County Buildings, Ardross Street,
Inverness. 4880

WARWICKSHIRE COUNTY COUNCIL.

COUNTY PLANNING DEPARTMENT.

Applications are invited for the following appointments:—

- (1) PLANNING ASSISTANT—New Grade III/IV (£600-£825 per annum).
- (2) PLANNING ASSISTANT—New Grade II (£560-£640 per annum).

Applicants for Post (1) should have had experience in Development Control work in a planning office and will be required to provide and maintain a car.

Applicants for Post (2) should hold an intermediate professional qualification and should have had experience in Development Plan preparation.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and to the National Scheme of Service.

The appointments will be made at the minimum salary in each case.

Applications, together with the names and addresses of two persons to whom reference may be made, should be sent to J. J. BROOKS, M.I.Mun.E., M.T.P.I., County Planning Officer, Northgate, Warwick, not later than 15th December, 1954.

Canvassing directly or indirectly will be a disqualification.

L. EDGAR STEPHENS,
Clerk of the Council. 4899

Shire Hall, Warwick.

GLENROTHES DEVELOPMENT CORPORATION.

Applications are invited for the posts of TWO ASSISTANT QUANTITY SURVEYORS. Commencing salary for suitable applicants, £750, rising to maximum of £890 per annum. Corporate Members of the R.I.C.S. preferred. Medical examination under Superannuation Scheme. The Corporation will provide a house to let, if required.

Applications, stating age, qualifications and experience, together with copies of not more than three recent testimonials, must reach the Secretary, Glenrothes Development Corporation, Glenrothes, Fife, not later than 8th December, 1954. 4885

4885

BRITISH ELECTRICITY AUTHORITY—

SOUTHERN DIVISION.

Applications are invited for the following post:—

ARCHITECTURAL DRAUGHTSMAN CONSTRUCTION DEPARTMENT, Portsmouth.

8/13.593.
Candidates should have had a good technical training in building construction. Duties will include preparation of plans and detail drawings in connection with offices, workshops, canteens, etc.

Salary: N.J.B. Grade D/5 (new schedule); £640 × £20-£740, according to qualifications and experience.

Special application forms, obtainable from P.D.A. Oliver, Divisional Secretary, 111, High Street, Portsmouth, should be returned by 15th December. Please quote reference "A.J." 4926

CITY OF BIRMINGHAM.

CITY ARCHITECT'S DEPARTMENT.

Applications are invited for the appointment of ASSISTANT ARCHITECT on Grade A.P.T. VIII (£785/£860 per annum) in the General Architecture Section which is responsible for a large and varied programme, including the design and erection of large public buildings, such as police and fire stations, office blocks, baths and other civic buildings.

Applicants must be Associate Members of the R.I.B.A., or hold an equivalent qualification, and must have a contemporary outlook in Architectural Design.

The post is permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed with the heading of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 14th December, 1954.

A. G. SHEPPARD FIDLER,
City Architect. 4933

Civic Centre,
Birmingham, 1.

CITY OF PETERBOROUGH. DEPUTY ENGINEER, SURVEYOR AND WATER ENGINEER.

Applications are invited on the new Grade A.P.T. VII (1950-1951) for the above appointment, under Mr. L. H. Robjohn (M.B.E., A.M.I.C.E.), City Engineer and Surveyor. Housing available.

Preference will be given to persons possessing Architectural and Engineering (including Water) experience. Full details and form of application may be obtained from the City Engineer at the Town Hall, Peterborough. Closing date for applications for the appointment, 23rd December, 1954.

C. PETER CLARKE,
Town Clerk.

Town Hall,
Peterborough.
November, 1954.

4925

LINDSEY COUNTY COUNCIL. COUNTY ARCHITECT'S DEPARTMENT.

Vacancies on the permanent staff for:
SENIOR ARCHITECTURAL ASSISTANT
A.P.T. V/VI (commencing £650 rising to £760).
Candidates must be A.R.I.B.A.

SENIOR QUANTITY SURVEYORS, A.P.T. VIII (commencing £785 rising to £800). Preference given to candidates holding A.R.I.C.S. or equivalent qualifications or experience.

BUILDING INSPECTORS/SURVEYORS A.P.T. IV (commencing £580, rising to £625). Duties in connection with repair and minor improvements to County Buildings. Preference for persons able to prepare rough estimates, explanatory drawings and brief specifications.

ELECTRICAL ASSISTANT, Miscellaneous Grade VI (commencing £550, rising to £610). Experience in preparation of specifications and schematic plans for installations.

Allowance of 25s. per week and return fare home bi-monthly may be paid up to six months to married men unable to find housing accommodation, N.J.C. Conditions of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications stating age, qualifications and experience with names of two persons to whom reference can be made, to be sent to the undersigned by 9th December, 1954.

A. RONALD CLARK, A.R.I.B.A., A.M.T.P.I.,
County Offices,
Lincoln.

4932

SURREY COUNTY COUNCIL.

Applications are invited for the following appointments:

(1) **ASSISTANT QUANTITY SURVEYOR, GRADE IV**, Salary £675 x £30 to £825 p.a., plus £30 p.a.

(2) **QUANTITY SURVEYING ASSISTANT, GRADE I**, Salary £500 x £20 to £580 p.a., plus London Weighting (max. £30).

Applications should state qualifications, experience, present appointment and salary; be accompanied by copies of three recent testimonials; and reach the County Architect, County Hall, Kingston, not later than 11th December, 1954.

4934

Architectural Appointments Vacant

4 lines or under, 7s. 6d.: each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

REQUIRED for Architects' Office, Central London area, young qualified ASSISTANTS interested in design and construction. Write, stating experience and salary required. Box 2326.

BUILDING SURVEYING ASSISTANT (about R.I.C.S. Final Standard) with at least two years' practical experience required by City firm of Chartered Surveyors & Architects. 3925

ASSISTANTS required for firm of contemporary Architects, the following qualifications being essential:—

- Should have reached Intermediate standard.
- Excellent drafting ability.
- Several years' office experience.
- Sound knowledge of construction.
- Keen interest in modern architecture.

Boissevain & Osmond, W.L. L.A.N. 7406. 4646

EXPERIENCED ASSISTANT ARCHITECT required. Only first-class man will be considered. Applicants should write in the first instance giving full details of their age, training, experience, present salary and salary required. Write to Messrs. David Carr & Stuart Matthew, Architects, 14, Lynedoch Place, Edinburgh. 4696

ARCHITECT'S ASSISTANTS required by a large Chain Store organisation. Commencing salary £600-£750 per annum, according to experience. Subsidised Staff Canteen, Staff Pension and Life Assurance Scheme. Write, giving details of past experience, age, etc., to Box AJ803, L.P.E. 55, St. Martin's Lane, W.C.2. 4728

LONDON architect with large programme of work abroad, including multi-storey hospitals, requires keen and experienced ASSISTANTS. Good prospects for the right type of applicant and probable opportunity for travelling abroad later. Reply giving full details of training and experience, and state salary required. Box 4792.

ARCHITECTURAL ASSISTANTS required. Intermediate standard. Contemporary work, schools, factories, houses, etc. Profit sharing scheme. Write or telephone: Hugh Macintosh & Partners, 33, High Street, Croydon. CROydon 1890. 4719

ARCHITECTURAL ASSISTANTS urgently required for busy, varied and progressive country practice. Write, giving details age, experience, salary required. Geoffrey Bazeley & Barbary, 15/16 Alverton, Penzance, Cornwall. 4664

JUNIOR ARCHITECTURAL ASSISTANT required for private practice near Steaford, Lincs. Write stating experience and salary required. Box 4791.

INTERMEDIATE/FINAL R.I.B.A. Standard ASSISTANTS required. Applicants to have knowledge of commercial work including offices and stores, etc., and London experience is essential. Apply Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, W.C.1. 4799

ARCHITECTURAL ASSISTANT urgently required, experienced in preparation of working Drawings, Details, Specifications and supervision, for South-West London office. Apply in writing giving full particulars of experience, age and salary required to Box 4797.

ARCHITECTURAL ASSISTANTS required immediately. Intermediate and Final Standard. State experience and Salary required. Permanent posts. Bertram Butler & Company, Chartered Architects, 6, Tettenhall Road, Wolverhampton. 4798

ARCHITECTURAL ASSISTANT of at least Intermediate Standard required by South London Architect for domestic and factory work. Reply stating salary and full particulars to Box 4806.

WORKS ARCHITECT, qualified man required by Large Engineering Company. Applicant should have had extensive experience of Factory and Office Buildings. Apply giving full details of age, experience and salary required to Personnel Manager, Box 4809.

REQUIRED immediately in Chelmsford, keen **ARCHITECT'S ASSISTANT** with initiative and ability to prepare working drawings, details, surveys, etc. State age and salary required to Box 4812.

VACANT DRAWING BOARD and desk awaits a **JUNIOR ASSISTANT** interested in the repair of ancient buildings, Churches, Manor Houses as well as contemporary design in all branches. Pleasant office in Worcester. Apply with full details of training, experience and salary required. Box 4738.

MULTIPLE company in the Midlands require qualified **ARCHITECT** to be responsible to principal for designs, working drawings, Contracts, control of Drawing Office and other Staff. To a capable man proving his suitability the post offers an exceptional opportunity to succeed present Chief Architect who is approaching retiring age. Five-day week and Superannuation Scheme in operation. Applications giving details of age, qualifications, training, experience and salary required should be sent to Box 4743.

THE BRITISH THOMSON-HOUSTON CO., LTD., Rugby, have immediate vacancies for the following staff:—**ASSISTANT ARCHITECT**, Senior Grade, to take charge of section of office. Experience of industrial work essential and fully familiar with all activities of the profession. **ARCHITECTURAL DRAUGHTSMAN** fully experienced in the preparation of all drawings, detailing etc. **STRUCTURAL ENGINEER**, Senior Grade, required to design and negotiate all steel-work and reinforced concrete structures, to be responsible for a variety of work in the architect's section. **QUANTITY SURVEYOR**, Senior Grade, to take control of quantity surveying practice in the architect's section. **CLERK OF WORKS** to supervise the erection of building contracts at Rugby and Midlands Area. Applications should be addressed to the Head of Personnel Department stating full details of experience, past and present employers, salary required. Copies of references should be provided. 4751

SENIOR ARCHITECTURAL ASSISTANT required for busy practice engaged upon schools, industrial buildings, offices, etc. Write giving full particulars of qualifications, experience and salary required to Johns & Slater, F.A.R.I.B.A., 32, Foundation Street, Ipswich. 4768

ARCHITECTURAL DRAUGHTSMEN required after Christmas in connection with the re-building and extension of a large city block. Sound knowledge of construction plus ability to survey and prepare detailed working drawings are essential. Applicants, having at least two years' experience, should write to Staff Architect, Schofields Department Store, The Headrow, Leeds 1, giving age, experience, qualifications. Salary by arrangement. 4772

ASSISTANT, Inter-Final standard, good draughtsman. Interesting work. E. B. Musman & Partners, 12, Upper Berkeley Street, W.1. 4907

ARCHITECTURAL ASSISTANT to Staff Architect required after Christmas in connection with the re-building and extension of a Department Store block. Capable of taking charge of draughtsmen at all stages of work and ability to prepare accurate working drawings up to quantity surveyor stage. Some knowledge of engineering services in modern building also an advantage. Applicants, having at least three years' experience, should write to Staff Architect, Schofields, The Headrow, Leeds, 1, giving age, experience, qualifications. Salary by arrangement. 4773

ARCHITECTURAL ASSISTANT with good all round experience required in West End office. One able to take charge of jobs from sketch plan stage to completion. Reply giving age, experience and salary required to Box 4774.

W. H. SMITH & SON, LTD., invite applications for positions of **ARCHITECT'S ASSISTANTS**, both Senior and Junior, in the Architectural Section of their Estate Department for work in connection with the development and design of commercial projects, shop premises and other interesting work. Those applicants applying for Senior positions must be qualified. Good salary according to experience and ability. Five-day week. Staff superannuation scheme. Applications in writing to the Chief Architect, Estate Department, W. H. Smith & Son, Ltd., Strand House, W.C.2. 4827

ARCHITECTURAL ASSISTANTS required immediately for general practice, mainly flats and houses. Capable of detailing and good draughtsmanship essential at least 3 years' office experience. Salary £500/600 according to experience. Apply—R. Jelinek-Karl, F.R.I.B.A., 22, Chancery Lane, W.C.2. 4839

CECIL Howitt & Partners, Architects, St. Andrew's House, Mansfield Road, Nottingham, require **JUNIOR ARCHITECTURAL ASSISTANTS**, preferably Inter. R.I.B.A. standard. Please apply in writing, giving full details and stating salary required. 4705

ARCHITECTURAL ASSISTANT, of at least Inter. standard and with good experience, wanted for general practice near Derby. Apply by letter, giving age, educational details, experience, and salary required, to Box 4902.

SENIOR ARCHITECTURAL ASSISTANT required for Head Office, Bristol. Sound practical experience, high standard draughtsmanship, knowledge of construction, and keen interest in contemporary design. Able to handle contracts completely and take full responsibility. Interesting future prospects. Reply in writing, stating experience, qualifications, age, and salary required, to Angus McDonald & Partners, Chartered Architects, 1, Unity Street, Bristol, 1. 4903

ARCHITECTURAL ASSISTANT, Intermediate standard, required immediately in Branch Office at Guildford, Surrey. Interesting prospects for good draughtsman, with sound knowledge of construction and keen interest in contemporary design. Apply, with details of experience, qualifications, age, and salary required, to Angus McDonald & Partners, Chartered Architects, 1, Unity Street, Bristol, 1. 4904

TWO SENIOR ARCHITECTURAL ASSISTANTS required in Coventry office handling large contracts. Good salaries. Travelling expenses paid to applicants selected for interview. Pension scheme. Houses available. W. S. Hattrell & Partners, 1, Queens Road, Coventry. 4906

CAPABLE ASSISTANT required for general practice. Write, giving full particulars and salary required, to Hatchard-Smith & Bertram, 22, Minster Street, Reading. 4908

JUNIOR ARCHITECTURAL ASSISTANT required at once in Southampton office. Applicants must be first-class draughtsmen and have completed National Service. Write, giving age, training, and experience, and present salary. Box 4909.

ASSISTANT, Intermediate standard, for Westminster office, for industrial and commercial work. Must be good draughtsman. Salary according to experience. Write, stating full details. Box 4912.

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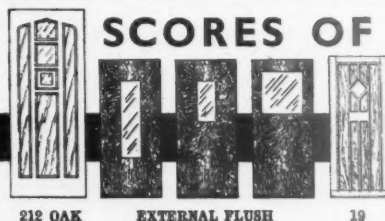
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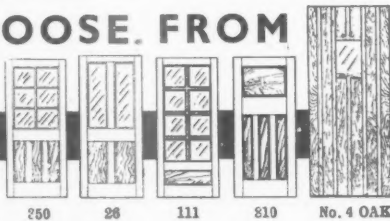
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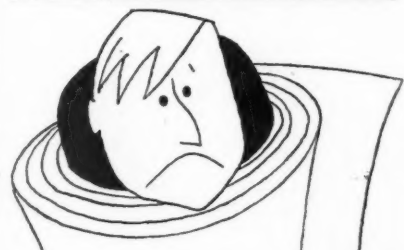
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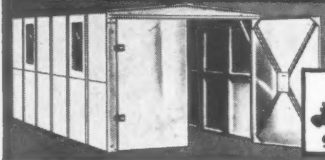
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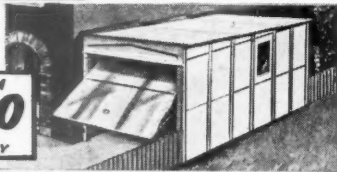
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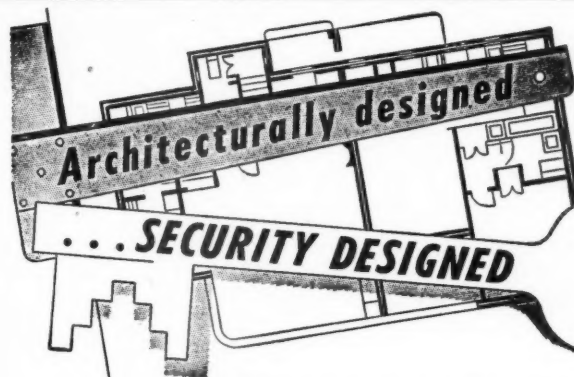
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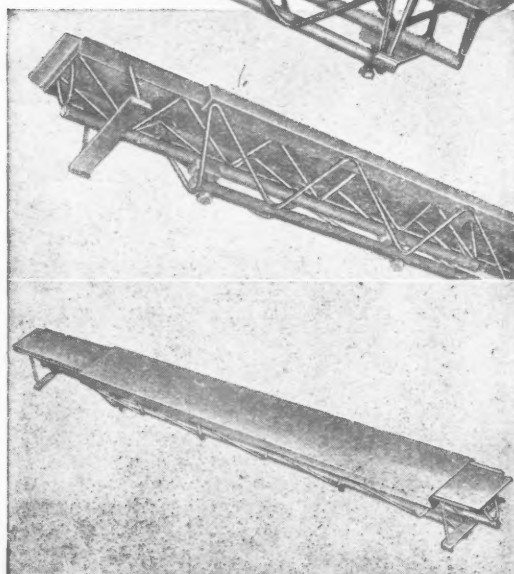
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